



Tighe & Bond

General Permit for the Discharge of
Stormwater from Separate Municipal
Storm Sewer Systems

Stormwater Management Plan

Prepared For:

Town of Darien

March 31, 2017

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Provided by Link

2014 CT Integrated Water Quality Report:

http://www.ct.gov/deep/lib/deep/water/water_quality_management/305b/2014_iwqr_305b_303d_final.pdf

Darien Zoning Regulations: <http://darienct.gov/zoningregs>

Abbreviations

BMP	Best Management Practice
CT	Connecticut
CTDEEP	Connecticut Department of Energy and Environmental Protection
CTDOT	Connecticut Department of Transportation
CWA	Clean Water Act
DCIA	Directly Connected Impervious Area
DS	Downstream
EPA	United States Environmental Protection Agency
IDDE	Illicit Discharge Detection and Elimination
IWQR	Integrated Water Quality Report
LID	Low Impact Development
MS4	Municipal Separate Storm Sewer System
NDDB	Natural Diversity Database
NPDES	National Pollutant Discharge Elimination System
TMDL	Total Maximum Daily Load
UA	Urbanized Area
US	Upstream

Section 0

Introduction

0.1 Program Background

In 1990, the United States Environmental Protection Agency (EPA) promulgated Phase I of its municipal stormwater program under the authority of the Clean Water Act (CWA). Phase I utilized National Pollutant Discharge Elimination System (NPDES) permit coverage to address stormwater runoff from large municipal separate storm sewer systems (MS4s) that served urbanized areas.

The Stormwater Phase II Final Rule promulgated on December 8, 1999 required MS4 operators in smaller urbanized areas to implement programs and practices aimed at controlling polluted stormwater runoff through the NPDES permit program. The program required Phase II municipalities to develop a stormwater management plan outlining how the municipality intended to address the six minimum control measures set forth by EPA:

- ▶ Public Education and Outreach
- ▶ Public Involvement/Participation
- ▶ Illicit Discharge Detection and Elimination
- ▶ Construction Site Stormwater Runoff Control
- ▶ Post-Construction Stormwater Management in New Development and Redevelopment
- ▶ Pollution Prevention/Good Housekeeping for Municipal Operations

0.2 Statewide General Permit

The Connecticut Department of Energy and Environmental Protection (CTDEEP) administers NPDES permitting in Connecticut and has issued a General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4). The first MS4 General Permit became effective January 1, 2004, expiring January 1, 2009. The original permit was reissued multiple times by CTDEEP without modifications, most recently on January 1, 2016 and expiring June 30, 2017.

CTDEEP has issued a new permit, to become effective July 1, 2017 that has several significant changes from the existing permit.

Please refer to **Appendix A** for a copy of the permit and registration.

The updated permit covers small MS4s, defined as “any municipally-owned or -operated municipal separate storm sewer system (MS4), including all those located partially or entirely within an Urbanized Area (as determined by the 2000 or 2010 census) that have at least 1,000 residents in the Urbanized Area, and all state- and federally-operated MS4s (except DOT), and any other MS4s located outside an Urbanized Area as may be designated by the Commissioner.”

For the 2010 US Census, an urban area is comprised of a densely-settled core of census tracts and/or census blocks, encompassing at least 2,500 people, at least 1,500 of which reside outside institutional group quarters. An Urbanized Area (UA) is comprised of 50,000 or more people.

More than 93% of the Town of Darien is defined as an Urbanized Area, based on the 2010 Census.

The permit authorizes discharge of stormwater and certain non-stormwater discharges from or associated with regulated MS4s, if the activity is conducted in accordance with the conditions set forth in the permit. The registration is a two-part process. The first part consists of contact information for the MS4 operator, its consultants, and the waterbodies to which the MS4 discharges. The second part of the registration consists of the plan, which includes information as to which stormwater Best Management Practices (BMPs) will be employed to fulfill each minimum control measure. Each BMP will include the name of the person responsible for ensuring the implementation of the BMP, the implementation schedule, and the measurable goals for the evaluation of the BMP.

0.3 Summary of Key Changes from 2004 Permit

The new MS4 General Permit is aligned using the same Six Minimum Control Measures that were used in the existing 2004 MS4 permit. Changes to each of the Minimum Control Measures are as follows:

0.3.1 Public Education and Outreach

This minimum measure is substantially similar to the current permit but provides more detail on the types of outreach required and the means of conducting the outreach. It specifies outreach targeting pet waste, application of fertilizers, herbicides, and pesticides, and impacts of illicit discharges and improper disposal of waste into the MS4. This minimum measure also dictates a timeline for implementation of this program. In addition to these standard requirements, this measure includes additional targeted efforts to address water quality impairments.

0.3.2 Public Involvement and Participation

As with public education and outreach, this measure is not significantly different from the current general permit but the new general permit provides additional detail on the implementation of this requirement. It requires the MS4 to publish a public notice of the availability of its Stormwater Management Plan and Annual Report for public review. This measure requires a minimum of a 30-day comment period to solicit and receive public comment on the Annual Report.

0.3.3 Illicit Discharge Detection and Elimination (IDDE)

This section addresses how the MS4 identifies, traces and eliminates non-stormwater discharges to its storm sewer system from sources such as sanitary sewer cross-connections, illegal dumping, industrial and commercial wastes, floor drains, animal wastes, lawn management chemicals and wastes. While the overall requirements of this section remain similar to the current general permit, the new general permit provides considerably more detail regarding the legal authorities that are required to implement the IDDE program, the protocol for actually performing the field work to detect and eliminate illicit discharges, mapping requirements, citizen reporting provisions and the timeframe for IDDE program completion. The requirements of this measure are mandated only in the Priority Areas.

Priority Areas are identified as areas meeting one or more of the following:

- ▶ The Urbanized Area as defined by the U.S. Census Bureau for the 2000 or 2010 census)
- ▶ Catchment areas of the MS4 with Directly Connected Impervious Area (DCIA) of greater than 11%
- ▶ Areas that discharge to directly to impaired waters.

The new General Permit also contains new requirements for record keeping to document the progress of the IDDE program. In addition to these standard requirements, this measure includes additional targeted efforts to address water quality impairments.

0.3.4 Construction Site Stormwater Runoff Control

While containing all the requirements of the current general permit, this section of the new general permit provides significantly more detail. A good deal of this detail is outlining the legal authorities the MS4 must develop to manage construction site runoff within its jurisdiction. Most of this legal authority will reside within the regulations and policies of the land-use commissions for the MS4. This section will require consistency with the 2004 Connecticut Stormwater Quality Manual in addition to the 2002 Guidelines for Soil Erosion and Sedimentation Control already referenced in the current permit. More detail is provided for construction review and inspection, notification of requirements of the CTDEEP construction general permit, public involvement and long-term maintenance of stormwater treatment ponds. There is also new language requiring the MS4 to develop a plan outlining how all MS4 departments and boards with jurisdiction over land disturbance and development projects will coordinate their functions with one another.

0.3.5 Post-Construction Stormwater Runoff Control

The new general permit expands this section to require MS4s to update their land-use regulations to include Low Impact Development (LID) measures, post-construction stormwater retention and other elements of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, effective October 1, 2013 (construction general permit) in addressing applications for new development and redevelopment. In addition, the MS4 must develop a program to ensure the inspection and long-term maintenance of existing stormwater facilities under the jurisdiction of the MS4 as well as provide, through its land-use regulations, requirements for long-term maintenance of stormwater management measures in new applications for development. In addition to these standard requirements, this measure includes a requirement for the MS4 to map its Directly Connected Impervious Area. There are also targeted efforts, including prioritizing the use of retrofits, to address water quality impairments.

0.3.6 Pollution Prevention and Good Housekeeping

This section of the new general permit expands on the requirements of the current general permit and provides additional details on the maintenance of the MS4's property and operations including parks and open space, employee training, the management of pet waste and waterfowl, buildings and facilities, vehicles and equipment, parking lots, snow management practices, street sweeping, leaf management and catch basin cleaning. In addition to these standard requirements, this measure includes a Retrofit Program requiring

the reduction of DCIA within the MS4 by retrofits or stormwater retention practices for redevelopment projects.

0.3.7 Impaired Waters

CTDEEP is required by Section 303(d) of the federal Clean Water Act to assess its water bodies to determine if they are impaired for a variety of uses and to develop a plan, called a Total Maximum Daily Load plan (TMDL), to eliminate the causes of these impairments and return these waters to designated uses. These water bodies are categorized as impaired waters. The new general permit expands significantly on the requirements of the current general permit regarding how an MS4 must address impaired waters within its boundaries. While there are numerous causes for impairments throughout the state, most impairments (with or without TMDLs) for which stormwater is a potential source, are likely caused by phosphorus, nitrogen, and bacteria. In addition to these, sediment is another significant stormwater pollutant as it can impact water resources through sedimentation and carrying pollutants such as metals and nutrients bound to sediment. Each of the six Minimum Control Measures includes a section detailing which of the BMPs within the measure should receive particular focus and emphasis to address a given impairment. To further address how an MS4 deals with impaired waters, there are specific monitoring requirements targeting these waters as well as measures to be implemented to address new or increased discharges to impaired waters.

0.3.8 Monitoring

The current MS4 general permit requires the monitoring of six (6) representative stormwater outfalls once a year during a rain storm. The new general permit will transition to outfall screening for discharges to impaired waters only, followed by representative outfall sampling in the last two years of the permit. The outfall screening will be conducted during a rain storm and will only include screening for nitrogen, phosphorus, bacteria or turbidity, dependent on the identified cause of the impairment. Outfalls that exceed certain thresholds will be targeted for follow-up investigation and increased or alternate BMPs within the outfall's drainage area.

0.4 Applicability

The measures identified in this Plan will be applied throughout the boundaries of the Town of Darien except as otherwise noted and will be consistent with the MS4 General Permit requirements. Stormwater discharge from municipally-owned maintenance garages, salt sheds and other facilities subject to the CTDEEP Industrial Stormwater General Permit will continue to be regulated under the conditions of that permit.

0.5 Preparation of the Plan

The Town of Darien has implemented a stormwater management plan that addresses the six minimum control measures that are required by the state, as well as BMPs for each measure that strive to reduce pollution and control stormwater runoff.

The Plan's implementation will be tracked and documented in Annual Reports summarizing stormwater management activities carried out by the Town and its partners. These reports

will be submitted to CTDEEP on an annual basis no later than April 1 of the following year, as required by the MS4 General Permit.

0.6 Description of Municipality

The operator of the MS4 is the Town of Darien. The Town of Darien is a public entity located in Fairfield County, Connecticut. Darien covers an area of approximately 23.4 square miles, as shown in **Figure 0-1**.

The Connecticut Department of Transportation (CTDOT) operates a MS4 on state highways located in the Darien. This system is regulated separately under CTDOT's MS4 permit. Implementation of the BMPs identified in this plan will be coordinated between the Town of Darien, CTDOT, and other adjoining municipalities as needed.

0.7 Watershed-Based Management

Watersheds are areas of land draining to a common point, such as rivers, lakes, and streams. Since watersheds are defined by topography, and land uses within the watershed have a direct impact on the quality of the watercourse to which they drain, they are the primary basis of water resource management.

According to the EPA, a watershed approach is the most effective framework to address today's water resource challenges. Watersheds supply drinking water, provide recreation and respite, and sustain life. The EPA estimates \$450 billion in food and fiber, manufactured goods, and tourism depends on clean water and healthy watersheds in the United States.¹

Operating and coordinating programs on a watershed basis makes good sense for environmental, financial, social, and administrative reasons. For example, by jointly reviewing the results of assessment efforts for drinking water protection, pollution control, fish and wildlife habitat protection and other aquatic resource protection programs, managers from all levels of government can better understand the cumulative impacts of various human activities and determine the most critical problems within each watershed. Using this information to set priorities for action allows public and private managers from all levels to allocate limited financial and human resources to address the most critical needs. Establishing environmental indicators helps guide activities toward solving those high priority problems and measuring success in making real world improvements rather than simply fulfilling programmatic requirements.

The watershed approach strengthens teamwork between the public and private sectors at the federal, state, tribal and local levels to achieve the greatest environmental improvements with the resources available. This emphasis gives those people who depend on the aquatic resources for their health, livelihood or quality of life a meaningful role in the management of the resources. Through such active and broad involvement, the watershed approach can build a sense of community, reduce conflicts, increase commitment to the actions necessary to meet societal goals and, ultimately, improve the likelihood of sustaining long-term environmental improvements.

0.8 Watershed Inventory

CTDEEP has identified major watersheds throughout the state, identified on its map entitled "Natural Drainage Basins in Connecticut", 1981.

¹ Source: <https://www.congress.gov/bill/111th-congress/house-resolution/1348/text> ;

The Town of Darien lies within the Southwest Coast major basin, which is divided into regional basins, and further subdivided into main stem basins. **Figure 0-2** graphically shows the division of these basins within Darien, while **Table 0-1** lists these basins.

Table 0-1
CTDEEP Natural Drainage Basins within the Town of Darien

Major Basin	Regional Basin	Main Stem Basin
7 – Southwest Coast	74 – Southwest Western Complex	70 – Southwest Shoreline
		7000 – Southwest Shoreline
		7401 – Fivemile River
		7402 – Darien River (Stony Brook)
		7403 – Noroton River

0.9 Water Quality

Section 305(b) of the Federal Clean Water Act (CWA) requires each State to monitor, assess and report on the quality of its waters relative to designated uses. Section 303(d) of the CWA requires each State to list waters not meeting water quality standards and prioritize those waters for Total Maximum Daily Load (TMDL) development or other management. Reporting for these waters is submitted to EPA every two years.

Connecticut has historically submitted the Water Quality Report to Congress (305(b) Report) and List of Waters Not Meeting Water Quality Standards (303(d) List) as separate documents. Since 2004, CTDEEP has consolidated the submittals into one report called the Integrated Water Quality Report (IWQR).

Table 0-2 identifies the assessment results from CTDEEP's 2014 IWQR for watercourses and waterbodies within the Town. More information on the thresholds established for fully supported uses can be found in the IWQR on CTDEEP's website (provided by link in the **Table of Contents**).

Table 0-2
305(b) Watercourse and Waterbody Assessments

Description	Segment ID	Location	Size	Aquatic Life	Recreation
Fivemile River (New Canaan) – 01	CT7401-00_01	From INLET to Jacob Pond (DS of Amtrak crossing and Carolyn Court crossing), Norwalk/Darien town border, US to Old Norwalk Road crossing 0.2 miles DS of POTW), New Canaan.	5.62 miles	U	NOT
Keelers Brook (Norwalk) – 01	CT7401-06_01	Mouth at confluence with Five mile River on Darien/Norwalk town line, 0.3 miles DS of Rowayton Avenue crossing (at Woodchuck Lane intersection) US to confluence with unnamed tributary, 0.3 miles UF of Flax Hill Road crossing and just DS of 195, Norwalk.	1.05 miles	U	NOT
Noroton River - 01	CT7403-00_01	From Post Road (Route 1) crossing (saltwater limit at head of Holly Pond), US to southwestern corner of St. John's Cemetery (river bend to west),	2.3 miles	NOT	U

Table 0-2
305(b) Watercourse and Waterbody Assessments

Description	Segment ID	Location	Size	Aquatic Life	Recreation
Stamford/Darien town border.					
Noroton River - 02	CT7403-00_02	From southwestern corner of St. John's Cemetery (river bend to west), Stamford/Darien town border, US to Merritt Parkway (Route 15) crossing (US of Raymonds Pond), New Canaan	2.61 miles	NOT	U
LIS WB Inner – Cove Harbor, Stamford	CT-W1_015-SB	Western portion of LIS, Inner Estuary, from SA/SB water quality line at mouth (Greenway Island to Pratt Island Two), to Holly Pond outlet at Brush Island (include Quigley, East (Cove Island), and Weed Beaches), Stamford/Darien	0.466 square miles	NOT	FULL
LIS WB Inner – Holly Pond, Stamford	CT-W1_016-SB	Western portion of LIS, Inner Estuary, from Holly Pond outlet at Brush Island (flows into Cove Harbor), US to saltwater limit at Route 1 crossing (just DS of 195 crossing), Stamford/Darien	0.31 square miles	U	U
LIS WB Shore – Fivemile River Estuary, Darien	CT-W2_015	Western portion of LIS from Fish Islands to Norton Point (includes Bell island Beach, Fish Islands, Contentment Island, Butlers Island, Fivemile River mouth, Roton Point) out approximately 1000 feet offshore, Darien.	0.342 square miles	U	FULL
LIS WB Shore – Scott Cove, Darien	CT-W2_016	Western portion of LIS from Long Neck Point to Fish Island (includes Hay Island, Great Island) out approximately 1000 feet offshore, Darien.	0.718 square miles	U	U
LIS WB Shore – Darien Cove, Darien	CT-W2_017	Western portion of LIS from Greenway Island area of outer Cove Harbor to Long Neck Point (includes Pear Tree Point Beach, Nash Island, Darien River mouth), out approximately 1000 feet offshore, Darien.	0.498 square miles	U	FULL
LIS WB Midshore – Outer Fivemile R Estuary, Darien	CT-W3_009	Western portion of LIS from approximately 1000 feet offshore (outer Scott Cove near Fish Islands to Norton Point area), out to 50-foot contour, Darien.	2.453 square miles	NOT	U
LIS WB Midshore – Outer Cove Harbor, Darien	CT-W3_010	Western portion of LIS from approximately 1000 feet offshore (off of Long Neck Point, outer Cover Harbor, Darien Cove, Scott Cove area), out to 50-foot contour, Darien.	2.113 square miles	NOT	U
LIS WB Offshore – Darien	CT-W4_004	Western portion of LIS from 50-foot contour to CT/NY State line.	16.767 square miles	NOT	U
Key:	FULL = Designated use fully supported I = Insufficient Information NOT = Designated use not supported U = Unassessed				

CTDEEP has identified certain watercourses it has assessed as impaired because they do not meet minimum water quality standards for certain designated used. **Table 0-3** lists

watercourses within Darien that CTDEEP has identified as impaired under Section 303(d). **Figure 0-3** illustrates the impaired waters in the Town of Darien.

Table 0-3
303(d) Impaired Waterbodies in Darien

Watercourse	Location	Size	Surface Water Quality Class	Description
Noroton River - 01	From Post Road (Route 1) crossing (saltwater limit at head of Holly Pond), US to southwestern corner of St. John's Cemetery (river bend to west), Stamford/Darien town border.	2.3 Miles	B, B*	<p>Impaired Designated Use: Habitat for Fish, Other Aquatic Life and Wildlife</p> <p>Cause Unknown</p> <p>Potential Sources: Industrial point source discharges, illicit discharges, remediation sites, groundwater contamination</p>
Noroton River – 02	From southwestern corner of St. John's Cemetery (river bend to west), Stamford/Darien town border, US to Merritt Parkway (Route 15) crossing (US of Raymonds Pond), New Canaan.	2.64 Miles	B, B*	<p>Impaired Designated Use: Habitat for Fish, Other Aquatic Life and Wildlife</p> <p>Cause Unknown</p> <p>Potential Sources: Industrial point source discharges, remediation sites, groundwater contamination</p>
LIS WB Inner – Holly Pond, Stamford	Western portion of LIS, Inner Estuary, from Holly Pond outlet at Brush Island (flows into Cove Harbor), US to saltwater limit at Route 1 crossing (just DS of 195 crossing), Stamford/Darien	0.31 square miles	SB	<p>Impaired Designated Use: Commercial Shellfish Harvesting Where Authorized</p> <p>Cause: Fecal Coliform</p> <p>Potential sources: groundwater contamination</p>
Key	<p>Surface Water Quality Designation:</p> <p>Class A: Designated uses: potential drinking water supply; fish and wildlife habitat; recreational use; agricultural and industrial supply and other legitimate uses including navigation.</p> <p>Class B: Designated uses: recreational use; fish and wildlife habitat; agricultural and industrial supply and other legitimate uses including navigation.</p>			

Total Maximum Daily Loads (TMDLs) have been developed for waters in the Town of Darien. The TMDL identifies the capacity of a surface water to assimilate pollutants without impacting its designated uses. Please refer to **Table 0-4**.

Table 0-4
TMDL or Management Strategies Applicable to Darien

Name of TMDL or Strategy	Pollutant	Waterbody Name	Link
Long Island Sound TMDL	Nitrogen	LIS WB Offshore - Darien	http://www.ct.gov/deep/lib/deep/water/lis_water_quality/nitrogen_control_program/tmdl.pdf

The 2014 CT IWQR (provided by link in the **Table of Contents**) also includes a Reconciliation List of Impaired Waters (Delistings and Listings) that lists which waterbodies and watercourses have met their TMDL goals, including waterbodies and watercourses in the Town of Darien.

CTDEEP has developed a Water Quality Fact Sheet for Darien, summarizing the impaired waters in Town, and findings from the previous MS4 testing submitted by the Town. The fact sheet is attached as **Appendix B**.

0.10 Endangered and Threatened Species

On the CTDEEP Natural Diversity Data Base (NDDB) map for Darien dated December 2016, there are several shaded areas of concern within the Town, particularly along the Long Island Sound coastline.

No new activity is specifically proposed within these areas by this Plan. If new activities are proposed within these areas, the activity would require advance screening by CTDEEP's NDDB staff.

0.11 Aquifer Protection

There is one area of Darien located with a Level A Aquifer Protection Area, in the northwest corner of the MS4 on the border with Stamford.

The Town of Darien's Planning and Zoning Commission is designated as the Aquifer Protection Agency for the Town. The Aquifer Protection Area Regulations took effect on 2/17/2009 (see **Appendix C**).

0.12 Historic Properties

The following historic properties have been identified from the National Park Service's National Register of Historic Places:

Table 0-5
National Register of Historic Places Properties in Darien

Property Description	ID Number	Address
Boston Post Road Historic District	82000997	567-728 Boston Post Rd., 1-25 Brookside Rd., and 45-70 Old King Highway N.
Stephen Tyng Mather House	66000877	19 Stephen Mather Rd.
Pond-Weed House	78002842	2591 Post Road
Meadowlands	87001408	274 Middlesex Road

The Plan does not propose any specific activity that would impact historic properties. Any activity that does impact these properties would need to be reviewed under historic preservation statutes.

0.13 New Discharges to Impaired Waters

The Plan does not propose new discharges to impaired waters. Should new discharges be proposed, it must be demonstrated that the new discharge will result in no net increase in loading to the impaired water for which the waterbody is impaired.

0.14 Disclaimer

Section 5(b) of the General Permit requires that the permittee shall develop, implement, and enforce a stormwater management plan designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable. When trying to reduce pollutants to the Maximum Extent Practicable, there must be a serious attempt to comply, and practical solutions may not be lightly rejected. Factors such as the conditions of receiving waters, specific local concerns, MS4 size, climate, implementation schedules, current ability to finance the program, beneficial uses of receiving water, hydrology, geology, and capacity to perform operation and maintenance should be considered in determining whether permittee has complied with this general permit to the Maximum Extent Practicable.

All provisions of this Plan are subject to the Maximum Extent Practicable limitation. The Town will make a good faith effort to substantially comply with the Plan, and where modifications are required, the Plan will be amended accordingly, and such changes will be identified in the Annual Report. However, due to circumstances beyond the control of Town staff, such as funding availability, and the voting and decision process of Town boards, certain elements of this Plan may not be able to be carried out, and will necessitate amendment of the Plan.

Section 1





Public Education and Outreach

1.0 Regulatory Goals

The goals of this minimum control measure are:

- ▶ Raise awareness that polluted stormwater runoff is the most significant source of water quality problems;
- ▶ Motivate residents to use BMPs which reduce polluted stormwater runoff; and
- ▶ Reduce polluted stormwater runoff as a result of increased awareness and utilization of BMPs.

The following targeted measures for impaired waters are required per Section (6)(a)(1)(C) of the permit:

 Phosphorus	Educational materials shall be specifically tailored and targeted to educate on the sources, impacts, and available pollution reduction practices from: septic systems, fertilizer use, grass clippings and leaves management, detergent use, discharge of sediment (to which Phosphorus binds) from Construction sites, other erosive surfaces
 Nitrogen	Educational materials shall be specifically tailored and targeted to educate on the sources, impacts, and available pollution reduction practices from: septic systems, fertilizer use, grass clippings and leaves management, discharge of sediment (to which Nitrogen binds) from Construction sites, other erosive surfaces
 Bacteria	Educational materials shall be specifically tailored and targeted to educate on the sources, impacts, and available pollution reduction practices from: septic systems, sanitary cross connections, waterfowl, pet waste, manure piles associated with livestock and horses
 Mercury	Educational materials shall be specifically tailored and targeted to educate on the sources, impacts, and available pollution reduction practices from: thermometers, thermostats, fluorescent lights, button cell batteries

1.1 Implement Public Education Program

1.1.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(1)(A)	Implement a public education program to distribute educational materials to the permittee's community (i.e. residents, business and commerce, students, staff, contractors, etc.) or conduct equivalent outreach activities about the sources and impacts of stormwater discharges on waterbodies and the steps that the public can take to
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reduce pollutants in stormwater runoff. The education program shall include, but not be limited to, information on management of pet waste, application of fertilizers, herbicides, and pesticides, impervious cover and impacts of illicit discharges and improper disposal of waste into the MS4. The form and content of the education program will be dependent on the audience and identified areas of concern for each MS4. Permittees may join other permittees in the same region to develop and implement a public education program. Educational information may be developed and/or acquired from other permittees, governmental agencies, community and non-governmental organizations, councils of government, academia, and/or environmental advocacy organizations. Outreach resources will be available from the DEEP stormwater webpage at www.ct.gov/deep/stormwater. Information may be disseminated with flyers, brochures, door hangers, television public service announcement, and web-based tools. Each Annual Report shall summarize the types, sources, number of, and methods by which materials disseminated.

(i) Permittees previously authorized by the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems issued on January 9, 2004 (existing 2004 MS4 permittees) shall begin implementation of this measure within the first year following the effective date of this permit and continue until permit expiration. Permittees shall utilize the materials developed under the 2004 MS4 permit and update or modify as necessary to acquire and/or develop the content of the outreach materials for this general permit.

6(a)(1)(B) To implement the public education and outreach program, the permittee shall develop or acquire current educational material from DEEP and other sources that identifies the pollutants (such as pathogens/bacteria, nitrogen, phosphorus, sediments, metals, oils & greases) associated with stormwater discharges, the potential sources of the pollutants, the environmental impacts of these pollutants, and related pollution reduction practices.

1.1.1 BMP Description

The Town of Darien will continue their efforts from the 2004 permit term to develop and implement a public education program dedicated to stormwater. The Town will expand their library of stormwater educational materials by creating new materials and/or obtaining materials provided by CTDEEP, the US EPA, and other agencies, and retain them for future use and distribution. Darien's Environmental Protection Commission was responsible for developing the stormwater management program for the town during the previous permit term, including providing public education and outreach relating to stormwater management activities and establishing procedures for public participation.

The procured or developed educational materials will cover, at minimum: information on the management of pet waste, application of fertilizers, herbicides, and

pesticides; impervious cover, and impacts of illicit discharges and improper disposal of waste into the MS4.

The Town will establish a stormwater page on the town website (<http://www.darienct.gov/>) to disseminate stormwater-related information as part of the public education program.

Examples of additional public outreach activities may include:

- ▶ Brochures educating the public about stormwater quality, such as the impacts of dumping in or near water bodies, can be distributed at Town Hall, the public library, and other places with a high volume of public traffic
- ▶ Develop and post messages to public access television and radio stations relevant to stormwater quality
- ▶ Develop a semiannual newsletter to educate the community about issues related to stormwater quality, including content on the impacts of phosphorus, nitrogen, bacteria, and mercury. A newsletter signup link can be added to the Stormwater page on the town website
- ▶ Partner with local schools to teach children the important of stormwater management and its relationship to water quality through presentations given by Town staff, teachers, or local environmental organizations
- ▶ Label storm drainage inlets with painted messages warning the public to not dump pollutants into the drains

The Town will develop the public outreach plan such that its outreach is adapted towards key target populations (e.g., disseminating information about stormwater impacts of livestock to the local farming population). Darien may also partner with local organizations to develop and share information about the stormwater pollutants of concern to reach a broader audience within the community (see BMP 2.2: Partner with Local Volunteer Organizations).

Darien will update the Annual Report each year to include a summary of the types, sources, number of, and methods by which stormwater educational materials were disseminated.

1.1.2 Implementation

Measurable Goal: Develop and expand library of stormwater educational materials by creating or obtaining at least one brochure, presentation, and/or flyer related to potential and existing stormwater pollution sources (specifically, phosphorus, nitrogen, bacteria, and mercury), the environmental impacts of these pollutants, and related pollution reduction practices. Develop and implement schedule to reach out to members of the Darien community, including residents, business owners, students, municipal staff, contractors and developers. Disseminate content to the community through a stormwater page on the Town website, through providing materials to Town offices, and sharing messages to public access television stations as appropriate.

Responsible Party: Edward L. Gentile, Jr., P.E.
 Director of Public Works
 Room 208, Town Hall
 2 Renshaw Road
 Darien, CT 06820
 203-656-7346

BMP 1.1: Implement Public Education Program Implementation Schedule

Permit Timeline	Activity
Year 1	Develop or procure from CTDEEP/other MS4s educational materials focused on bacteria and pet waste management and their impacts on stormwater quality (at least one brochure, flyer, booklet, presentation, or public access advertisement per topic). Develop and implement public education process to reach out to the Darien community, including establishing a stormwater page on the Town website to share educational materials.
Year 2	Develop or procure from CTDEEP/other MS4s educational materials focused on lawn care, nitrogen, and phosphorus and their impacts on stormwater quality (at least one brochure, flyer, booklet, presentation, or public access advertisement per topic). Continue to implement public education process with the Darien community. Update public education content on the stormwater page on the Town website as more information becomes available.
Year 3	Develop or procure from CTDEEP/other MS4s educational materials focused on mercury and improper waste disposal and their impacts on stormwater quality (at least one brochure, flyer, booklet, presentation, or public access advertisement per topic). Continue to implement public education process with the Darien community. Update public education content on the stormwater page on the Town website as more information becomes available.
Year 4	Develop or procure from CTDEEP/other MS4s educational materials focused on impervious coverage, oils and grease and their impacts on stormwater quality (at least one brochure, flyer, booklet, presentation, or public access advertisement per topic). Continue to implement public education process with the Darien community. Update public education content on the stormwater page on the Town website as more information becomes available.
Year 5	Develop or procure from CTDEEP/other MS4s educational materials focused on illicit discharges and their impacts on stormwater quality (at least one brochure, flyer, booklet, presentation, or public access advertisement). Continue to implement public education process with the Darien community. Update public education content on the stormwater page on the Town website as more information becomes available.
Year 5	Implementation complete.

1.2 Address Education/Outreach for Pollutants of Concern

1.2.0 Regulatory Requirement

The applicable regulatory requirements this BMP is intended to meet is as follows:

6(a)(1)(C) Additional measures for discharges to waters associated with a Stormwater Pollutant of Concern

These measures may be implemented solely by the permittee or as part of a collaborate regional or statewide program to address the issue. However, the permittee retains sole responsibility for compliance with this section. The method of implementation shall be indicated in the Permittee's Plan.

(i) For waters for which Phosphorus is a Stormwater Pollutant of Concern, educational materials shall be specifically tailored and targeted to education on the sources, impacts, and available pollution reduction practices from the following:

- a. Septic systems
- b. Fertilizer use
- c. Grass clippings and leaves management
- d. Detergent use
- e. Discharge of sediment (to which Phosphorus binds) from Construction sites
- f. Other erosive surfaces

(ii) For waters for which Nitrogen is a Stormwater Pollutant of Concern, educational materials shall be specifically tailored and targeted to education on the sources, impacts, and available pollution reduction practices from the following:

- a. Septic systems
- b. Fertilizer use
- c. Grass clippings and leaves management
- d. Detergent use
- e. Discharge of sediment (to which Nitrogen binds) from Construction sites
- f. Other erosive surfaces

(iii) For waters for which Bacteria is a Stormwater Pollutant of Concern, educational materials shall be specifically tailored and targeted to education on the sources, impacts, and available pollution reduction practices from the following:

- a. Septic systems
- b. Sanitary cross connections
- c. Waterfowl
- d. Pet Waste
- e. Manure piles associated with livestock and horses

(iv) For waters for which Mercury is a Stormwater Pollutant of Concern, educational materials shall be specifically tailored and targeted to education on the sources, impacts, and available pollution reduction practices from the following:

- a. Thermometers
- b. Thermostats
- c. Fluorescent Lights
- d. Button Cell Batteries

1.2.1 BMP Description

In developing the public education program and procuring educational materials (see BMP 1.1: Implement Public Education Program), Darien will include materials related to stormwater pollutants of concern (examples of relevant Educational Topics are summarized in **Table 1-1**).

Table 1-1: Educational Topics for Pollutants of Concern			
Phosphorus	Nitrogen	Bacteria	Mercury
Septic systems	Septic systems	Septic systems	Thermometers
Fertilizer use	Fertilizer use	Sanitary cross connections	Thermostats
Grass clippings and leaves management	Grass clippings and leaves management	Waterfowl	Fluorescent lights
Detergent use	Discharge of sediment (to which Nitrogen binds) from Construction sites	Pet waste	Button cell batteries
Discharge of sediment (to which Phosphorus binds) from Construction sites	Other erosive surfaces	Manure piles associated with livestock and horses	
Other erosive surfaces			

Relevant information on the stormwater pollutants of concern will be included in the public educational materials, including but not limited to:

- Identification of the pollutants and their potential sources,
- The environmental impacts of these pollutants, and
- Related pollution-reduction practices that the Darien community can and should implement.

The Town may elect to develop its own material, or procure information from CTDEEP, CT DOT, US EPA, other MS4s, community groups, councils of government, academia, or other relevant NGOs and government agencies.

The Town will develop the public outreach plan such that its outreach is adapted towards key target populations (e.g., disseminating information about stormwater impacts of livestock to the local farming population). Darien may also partner with local organizations to develop and share information about the stormwater pollutants of concern to reach a broader audience within the community (see BMP 2.2: Partner with Local Volunteer Organizations).

1.2.2 Implementation

Measurable Goal: Develop or procure and disseminate one or more brochures, flyers, web-based tools, and/or presentations that highlight the potential sources, impacts, and solutions for stormwater pollutants of concern

(specifically, phosphorus, nitrogen, bacteria, and mercury). Incorporate material(s) into the public education process developed in BMP 1.1, and deliver to the Darien community through appropriate channels. Partner with local organizations as appropriate to develop and disseminate materials.

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 Darien, CT 06820
 203-656-7346

BMP 1.2: Address Education/Outreach for Pollutants of Concern Implementation Schedule

Permit Timeline	Activity
Year 1	Develop/procure and disseminate educational materials focused on bacteria and pet waste management, and incorporate into the Darien public education process developed pursuant to BMP 1.1 (minimum of one reference to each topic). Update stormwater page on Town website to reflect new content as needed.
Year 2	Develop/procure and disseminate educational materials focused on lawn care, fertilizers, pesticides, herbicides, phosphorus, and nitrogen, and incorporate into the Darien public education process developed pursuant to BMP 1.1 (minimum of one reference to each topic). Update stormwater page on Town website to reflect new content as needed.
Year 3	Publish stormwater content concerning mercury and improper waste disposal once in the semiannual newsletter or on the Town website. Minimum of one content article or reference per year.
Year 4	Publish stormwater content concerning impervious coverage once in the semiannual newsletter or on the Town website. Minimum of one content article or reference per year.
Year 5	Publish stormwater content concerning illicit discharges once in the semiannual newsletter or on the Town website. Minimum of one content article or reference per year.
Year 5	Implementation complete.

1.3 Establish Stormwater Page on Town Website

1.3.0 Regulatory Requirements

The intent of this BMP is to supplement the requirements of 6(a)(1)(A) through 6(a)(1)(C) of the permit.

1.3.1 BMP Description

The Town of Darien will establish a stormwater-specific webpage on the Town website (<http://www.darienct.gov/>) to aid in the distribution of educational materials related to stormwater pollution.

Future topics may include but are not limited to the following:

- Management of pet waste
- Application of fertilizers, herbicides, and pesticides
- Impervious cover
- Impacts of illicit discharges and improper disposal of waste into the MS4
- Types of pollutants that impact stormwater, such as pathogens/bacteria, nitrogen, phosphorus, sediments, metals, oils & greases
- Potential sources of these pollutants and best management practices

The Town may elect to develop its own material, or procure information from CTDEEP, CTDOT, US EPA, other MS4s, community groups, councils of government, academia, or other relevant NGOs and government agencies.

1.3.2 Implementation

Measurable Goal: Update and maintain stormwater-specific webpage on the Town website with public educational outreach information and materials related to stormwater quality and pollutants of concern (specifically nitrogen, phosphorus, bacteria, and mercury).

Responsible Party: Edward L. Gentile, Jr., P.E.
 Director of Public Works
 Room 208, Town Hall
 2 Renshaw Road
 Darien, CT 06820
 203-656-7346

BMP 1.3: Update Stormwater Page on Town Website Implementation Schedule

Permit Timeline	Activity
Year 1	Develop and collect stormwater-specific educational materials to share with the public, pursuant to BMP 1.1 and 1.2. Establish stormwater page on Town website with information on potential sources of, impacts of, and solutions to stormwater pollutants of concern.
Year 2	Update stormwater webpage on the Town website with new information as needed.
Year 3	Update stormwater webpage on the Town website with new information as needed.
Year 4	Update stormwater webpage on the Town website with new information as needed.
Year 5	Update stormwater webpage on the Town website with new information as needed.
Year 5	Implementation complete.

Section 2

Public Involvement and Participation

2.0 Regulatory Goals

The goal of this minimum control measure is to involve the community in both the planning and implementation process of improving water quality.

Section 6(a)(2)(C) of the Permit does not specify any additional targeted measures for impaired waters.

2.1 Comply with Public Notice Requirements for the Stormwater Management Plan and Annual Reports

2.1.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(2)(A) Publish a public notice on the permittee's website, through an email or mailing list, if the permittee maintains one, or in a newspaper with general circulation in the area to inform the public of the Plan and the Annual Report required by Section 6(j) of this permit and to solicit comments on the Plan and Annual Report. The notice shall provide a contact name (with phone number, address, and email) to whom the public can send comments and a publicly accessible location (such as the MS4's main office or other designated municipal office, a local library or other central publicly available location) and/or URL where the Plan and Annual Report are available for public review. The public notice shall allow for a 30-day comment period, at a minimum. Municipalities and institutions shall publish this public notice annually no later than January 31.

2.1.1 BMP Description

The Town of Darien will inform the public of the MS4 Plan and the Annual Report by publishing a public notice on the Town website to inform the public of the Plan and the Annual Report, and to solicit comment on the Plan and Annual Report: (<http://darienct.gov/>).

This public notice will include contact information (including name, phone number, address, and email) for a person to whom the public can send comments, as well as the address of a publicly accessible location (e.g. the library or a municipal office) and/or a URL where the Plan and Annual Report are available for public review.

The public notice shall allow for a 30-day comment period, at minimum, and the Town will publish the notice no later than January 31 of the year following the annual reporting period. The Annual Report is due to CTDEEP by April 1.

2.1.2 Implementation

Measurable Goal: Publish a public notice for the MS4 Plan and Annual report by January 31st each year to the Town website. Accept comments from the public for a 30-day period on the Plan and Annual report each year.

Responsible Party: Edward L. Gentile, Jr., P.E.
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Room 208, Town Hall
2 Renshaw Road
Darien, CT 06820
203-656-7346

BMP 2.1: Comply with Public Notice Requirements for the Stormwater Management Plan and Annual Reports Implementation Schedule

Permit Timeline	Activity
Year 1	Publish public notice about the MS4 Plan and Annual Report by January 31. Accept public comments for 30 days following the public notice.
Year 2	Publish public notice about the MS4 Plan and Annual Report by January 31. Accept public comments for 30 days following the public notice.
Year 3	Publish public notice about the MS4 Plan and Annual Report by January 31. Accept public comments for 30 days following the public notice.
Year 4	Publish public notice about the MS4 Plan and Annual Report by January 31. Accept public comments for 30 days following the public notice.
Year 5	Publish public notice about the MS4 Plan and Annual Report by January 31. Accept public comments for 30 days following the public notice.
Year 5	Implementation complete.

2.2 Partner with Local Volunteer Organizations

2.2.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(2)(B) The permittee is encouraged to enlist local organizations to help implement the elements of their Plan. However, the permittee retains sole responsibility for permit compliance.

2.2.1 BMP Description

The Town will identify elements of the plan that can be implemented utilizing participation of volunteers from the Darien community. Examples may include:

- Storm drain stenciling

- ▶ Outfall monitoring
- ▶ Stream, riverfront, and beach clean-ups
- ▶ Adopt-a-Stream programs

Organizations that may be utilized to help implement the stormwater quality plan may include:

- ▶ Boy Scouts and Girl Scouts
- ▶ Local Watershed Groups' Staff and Volunteers
- ▶ Environmental non-profits
- ▶ Darien students

Wherever possible, the Town will engage local organizations as appropriate to help deliver messages about stormwater pollutants of concern (their potential sources, impacts, and solutions to mitigate these impacts) to targeted audiences in the community.

2.2.2 Implementation

Measurable Goal: Review MS4 plan and identify opportunities to engage with local organizations in implementing the plan. Contact at least one local organization and/or school annually to engage them in plan implementation and related programs, such as volunteer opportunities and town cleanup days.

Responsible Party: Edward L. Gentile, Jr., P.E.
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BMP 2.2: Partner with Local Volunteer Organizations Implementation Schedule

Permit Timeline	Activity
Year 1	Review MS4 plan and identify opportunities to engage with local organizations in implementing the plan. Contact at least one local organization and/or school to engage them in plan implementation and related programs, such as volunteer opportunities and town cleanup days. Engage organizations in plan implementation and programming.
Year 2	Contact and engage organizations in plan implementation and programming as appropriate.
Year 3	Contact and engage organizations in plan implementation and programming as appropriate.

Year 4	Contact and engage organizations in plan implementation and programming as appropriate.
Year 5	Contact and engage organizations in plan implementation and programming as appropriate.
Year 5	Implementation complete.

2.3 Conduct Household Hazardous Waste Collection

2.3.0 Regulatory Requirement

The BMP is intended to supplement the requirements of 6(a)(2), to aid in meeting the goal of the minimum control measure: “to involve the community in both the planning and implementation process of improving water quality”

2.3.1 BMP Description

The Town of Darien organizes an annual Household Hazardous Waste day, with a drop-off location at the Noroton Heights Railroad Station on Heights Road. Household hazardous waste is considered any item that if improperly discarded can be classified as toxic/poisonous, corrosive, flammable, or reactive/explosive.

Examples of acceptable items include oil-based paints; stains and varnishes; fuels, gasoline, and kerosene; engine cleaner and brake fluid; insecticides and pesticides; chemical fertilizers; rug and upholstery cleaners; and swimming pool chemicals.

Darien residents are also allowed to attend Hazardous Waste Days of surrounding Towns (specifically, Weston, Greenwich, New Canaan, Stamford, Norwalk, Westport, and Wilton) at no cost to the residents.

2.3.2 Implementation

Measurable Goal: Conduct at least one Household Hazardous Waste Collection Day per year for the Darien community. Notify residents about Household Hazardous Waste Collection dates through the Town website.

Responsible Party: Edward L. Gentile, Jr., P.E.
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BMP 2.3: Conduct Household Hazardous Waste Collection Implementation Schedule

Permit
Timeline **Activity**

Year 1	Conduct at least one Household Hazardous Waste Collection Day per year for the Darien community. Notify residents about Household Hazardous Waste Collection dates through the Town website.
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BMP 2.3: Conduct Household Hazardous Waste Collection Implementation Schedule

Permit Timeline	Activity
Year 2	Conduct at least one Household Hazardous Waste Collection Day per year for the Darien community. Notify residents about Household Hazardous Waste Collection dates through the Town website.
Year 3	Conduct at least one Household Hazardous Waste Collection Day per year for the Darien community. Notify residents about Household Hazardous Waste Collection dates through the Town website.
Year 4	Conduct at least one Household Hazardous Waste Collection Day per year for the Darien community. Notify residents about Household Hazardous Waste Collection dates through the Town website.
Year 5	Conduct at least one Household Hazardous Waste Collection Day per year for the Darien community. Notify residents about Household Hazardous Waste Collection dates through the Town website.
Year 5	Implementation complete.

Section 3

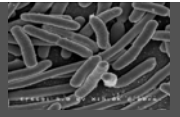
Illicit Discharge Detection and Elimination

3.0 Regulatory Goals

The goals of this minimum control measure are to develop a written Illicit Discharge Detection and Elimination (IDDE) program designed to:

- ▶ Provide the legal authority to prohibit and eliminate illicit discharges to the MS4;
- ▶ Find the source of any illicit discharges;
- ▶ Eliminate those illicit discharges; and
- ▶ Ensure ongoing screening and tracking to prevent and/or eliminate future illicit discharges.

The following targeted measures are required per Section (6)(a)(3)(D) of the permit for impaired waters:

P Phosphorus	To address septic system failures, the IDDE program shall give highest priority for the IDDE program in areas with the highest potential to discharge bacteria, phosphorus, and nitrogen to the MS4. Such areas shall be identified based on assessment of the following criteria: historic on-site sanitary system failures, proximity to bacteria impaired waters, low infiltrative soils, and shallow groundwater. The Annual Report shall include a summary of the program, the number of areas identified with failing systems, actions taken by the permittee to respond to and address the failures, and the anticipated pollutant reduction.
N Nitrogen	
 Bacteria	
Hg Mercury	No additional targeted measures required.

3.1 Develop Written IDDE Program

3.1.0 Regulatory Requirement

The applicable regulatory requirement for this BMP is as follows:

6(a)(3)(A)(i) The permittee shall, at a minimum, implement the IDDE program elements in this section and the IDDE protocol in Appendix B of the

permit within the Urbanized Area and those catchment areas of the MS4 with either Directly Connected Impervious Area (DCIA) of greater than 11% or which discharge to impaired waters ("priority" areas). The permittee is encouraged to develop a prioritizing strategy to identify areas outside these identified areas to further implement these IDDE measures. This prioritizing strategy should utilize the prioritizing elements included in Section (A)(7)(c) of Appendix B of the permit.

3.1.1 BMP Description

The Town of Darien shall develop a written IDDE program that will address the following components:

- Correcting existing illicit discharges
- Citizen reporting and tracking system
- Outfall inventory, screening/sampling, and prioritization
- Record keeping of activities to resolves illicit discharges

The objective of the IDDE program will be to systematically find and eliminate sources of non-stormwater discharges to the Town's MS4 and implement procedures to prevent such discharges.

The IDDE program will be implemented within the Urbanized Area in the Town; in those catchment areas with Directly Connected Impervious Area (DCIA) greater than 11%; and in catchment areas which discharge to impaired waters ("priority areas").

3.1.2 Implementation

Measurable Goal: Develop and implement written IDDE program, following the guidelines and IDDE protocol listed in Appendix B of the permit.

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 Director of Public Works
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 2 Renshaw Road
 Darien, CT 06820
 203-656-7346

BMP 3.1: Develop Written IDDE Program Implementation Schedule

Permit Timeline	Activity
Year 1	Develop written IDDE Program.
Year 2	Execute elements of written IDDE Program.
Year 3	Execute elements of written IDDE Program.
Year 4	Execute elements of written IDDE Program.
Year 5	Execute elements of written IDDE Program.
Year 5	Implementation complete.

3.2 Develop List and Maps of All MS4 Stormwater Outfalls in Urbanized and Priority Areas

3.2.0 Regulatory Requirement

The applicable regulatory requirement for this BMP is as follows:

6(a)(3)(C) Develop a list (spreadsheet or database) and map or series of maps at a minimum scale of 1"=2000' and maximum scale of 1"=100' showing all stormwater discharges from a pipe or conduit located within and owned or operated by the municipality or institution and all interconnections with other MS4s. The map(s) should, if possible, be developed in a GIS format.

The list and map(s) shall include for each discharge:

Type, material, size, and location (identified with a latitude and longitude) of conveyance, outfall or channelized flow (e.g. 24" concrete pipe);

the name, water body ID and Surface Water Quality Classification of the immediate surface waterbody or wetland to which the stormwater runoff discharges;

if the outfall does not discharge directly to a named waterbody, the name and water body ID of the nearest named waterbody to which the outfall eventually discharges;

the name of the watershed, including the subregional drainage basin number in which the discharge is located; and

the spreadsheet or database should, if possible, be prepared in a format compatible with Microsoft Excel.

3.2.1 BMP Description

The Town of Darien will develop a (1) a list and (2) a GIS-based map of all stormwater discharges from a pipe or conduit located within and owned/operated by the Town, and all interconnections with other MS4s. The map and list will indicate:

- ▶ The type, material, size, and precise location of conveyance, outfall, or channelized flow;
- ▶ The name, water body ID number, and Surface Water Quality Classification of the immediate surface waterbody or wetland to which the stormwater runoff discharges;
- ▶ The name and water body ID of the nearest named waterbody to which the outfall eventually discharges, if the outfall does not discharge directly to a named waterbody;

- ▶ The name of the watershed, including the subregional drainage basin number in which the discharge is located.

The list of all stormwater discharges will be prepared in a format compatible with Microsoft Excel. Darien was an MS4 permittee in 2004; therefore the list and mapping will be completed within two years of the effective date of the permit.

3.2.2 Implementation

Measurable Goal: Develop and maintain a list and GIS-based map of all stormwater discharges from a pipe or conduit located within and owned/operated by the Town, and all interconnections with other MS4s.

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BMP 3.2: Develop List and Maps of All MS4 Stormwater Outfalls in Urbanized and Priority Areas Implementation Schedule

Permit Timeline	Activity
Year 1	Develop Excel-compatible list and GIS-based map of 50% of all stormwater discharges and interconnections with other MS4s in the Town.
Year 2	Develop Excel-compatible list and GIS-based map of 50% of all stormwater discharges and interconnections with other MS4s in the Town.
Year 3	Update spreadsheet and map with new information as needed.
Year 4	Update spreadsheet and map with new information as needed.
Year 5	Update spreadsheet and map with new information as needed.
Year 5	Implementation complete.

3.3 Develop Citizen Reporting Program

3.3.0 Regulatory Requirement

The applicable regulatory requirement for this BMP is as follows:

6(a)(3)(A)(iii) The permittee shall develop a program for citizen reporting of illicit discharges. This may include maintaining a website, email list, or mailing program that provides clear instructions for the public describing how citizens can submit an illicit discharge report. The reporting program shall provide an email address and/or phone

number or other means for submissions. The permittee shall affirmatively investigate and eliminate any illicit discharges reported to it by any citizen or organization, provided that such report incorporates at least a time and location of an observed discharge. The permittee shall commence inspection of such a reported outfall or manhole promptly after receiving such a report, and incorporate those reported outfalls into its IDDE program subject to all provisions of this minimum control measure and of Appendix B of the permit. All citizen reports and the responses to those reports shall be included in the Annual Report.

3.3.1 BMP Description

The Town of Darien will develop a system for citizen reporting of illicit discharges, or utilize an existing system, such as its online Service Request system. The future stormwater page on the Town website will provide (1) clear instructions for the public describing how citizens can submit an illicit discharge report and (2) an email address and/or a phone number (and any other applicable means of contact) for submissions. Required submission information from citizens will include the time and location of any observed discharge(s).

The Town will investigate and eliminate any illicit discharges reported to it through the citizen reporting program. The investigation into any reported outfall or manhole will begin promptly after the reporting, and reported outfalls will be incorporated into the Town's IDDE program as appropriate.

The documentation of the citizen reporting program in the MS4 Annual Report will include the date, time, location, and nature of any complaint(s) received, and steps taken to address the complaint.

3.3.2 Implementation

Measurable Goal: Develop and implement program to track citizen complaints concerning illicit discharges. Provide reporting process guidelines and contact information on the future Stormwater page of the Town website. Promptly investigate and document discharges reported by citizens, and update the IDDE program and Annual Report as needed with information on reported illicit discharges.

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 203-656-7346

**BMP 3.3: Develop Citizen Reporting Program
Implementation Schedule**

Permit Timeline	Activity
Year 1	Develop and implement procedure to track citizen complaints of illicit discharges. Update stormwater page on Town website to include reporting process guidelines and contact information. Promptly investigate reported discharges. Update IDDE program with reported illicit discharge information as needed. Update Annual Report with reported illicit discharge information as needed.
Year 2	Continue to implement citizen reporting program. Promptly investigate reported discharges. Update IDDE program with reported illicit discharge information as needed. Update Annual Report with reported illicit discharge information as needed.
Year 3	Continue to implement citizen reporting program. Promptly investigate reported discharges. Update IDDE program with reported illicit discharge information as needed. Update Annual Report with reported illicit discharge information as needed.
Year 4	Continue to implement citizen reporting program. Promptly investigate reported discharges. Update IDDE program with reported illicit discharge information as needed. Update Annual Report with reported illicit discharge information as needed.
Year 5	Continue to implement citizen reporting program. Promptly investigate reported discharges. Update IDDE program with reported illicit discharge information as needed. Update Annual Report with reported illicit discharge information as needed.
Year 5	Implementation complete.

3.4 Establish Legal Authority to Prohibit Illicit Discharges

3.4.0 Regulatory Requirement

The applicable regulatory requirement for this BMP is as follows:

6(a)(3)(A)(ii) Illicit discharges to the MS4 by any person are prohibited, and any such discharges are not authorized by the general permit, are unlawful, and remain unlawful until they are eliminated. The permittee shall prohibit all illicit discharges from entering its MS4. Upon detection, the permittee shall eliminate discharges upon confirmation of responsible parties in accordance with its enforceable legal authorities established pursuant to subsection (B) below. Where elimination of an illicit discharge within sixty (60) days of its confirmation is not possible, the permittee shall establish a schedule for its elimination not to exceed 180 days (six (6) months). The permittee shall immediately commence actions necessary for elimination. The permittee shall diligently pursue elimination of all illicit discharges. In the interim, the permittee shall take all reasonable and prudent measures to minimize the discharge of pollutants to its MS4.

6(a)(3)(B) Establish the necessary and enforceable legal authority by statute, ordinance, rules and regulations, permit, easement, contract, order or any other means, to eliminate illicit discharges.

The legal authority shall:

- a. Prohibit illicit discharges to its storm sewer system and require removal of such discharges consistent with subsection (3)(A), above; and
- b. Control the discharge of spills and prohibit the dumping or disposal of materials including, but not limited, to residential, industrial and commercial wastes, trash, used motor vehicles fluids, pesticides, fertilizers, food preparation waste, leaf litter, grass clippings, and animal wastes into its MS4; and
- c. Authorize fines or penalties and/or recoup costs incurred by the permittee from anyone creating an illicit discharge or spilling or dumping as specified in subsection (3)(A) above. For state and federal institutions, where this provision may conflict with existing rules, regulations, policies, chain of command or other circumstances, alternate provisions for enforcement may be utilized.
- d. Provide any additional legal authorities specific in Section (A)(7)(a) of Appendix B of the permit.

3.4.1 BMP Description

The Town of Darien's Environmental Protection Commission established the "Flood and Erosion Regulations of the Town of Darien" on August 6, 2008 (see **Appendix D**). The Town will update the legal authority to ensure it follows the updated MS4 regulations.

The updated illicit discharge legal authority would:

- ▶ Prohibit illicit discharges into the Town storm sewer system and required removal of such discharges;
- ▶ Control the discharge of spills and prohibit the dumping or disposal of materials, including, but not limited to, residential, industrial, and commercial wastes, trash, used motor vehicle fluids, pesticides, fertilizers, food preparation waste, leaf litter, grass clippings, and animal wastes into the system;
- ▶ Authorize fines or penalties and/or recoup costs incurred by the permittee from anyone creating an illicit discharge or spilling or dumping as specified in the permit (alternate provisions may be established for state and federal institutions);

- Provide any additional legal authorities needed to ensure the Town has adequate legal authority to accomplish the tasks required in the IDDE program (see Appendix B of the permit).

The Town will strive to adopt and implement the legal authority to meet the requirements of the 2017 MS4 permit update.

3.4.2 Implementation

Measurable Goal: Establish legal authority in the Town to eliminate illicit discharges. Implement and enforce the ordinance.

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BMP 3.4: Establish Legal Authority to Prohibit Illicit Discharges Implementation Schedule

Permit Timeline	Activity
Year 1	Review existing legal authority to confirm it meets the requirements of the MS4 permit, and update as necessary
Year 2	Implement and enforce IDDE ordinance.
Year 3	Implement and enforce IDDE ordinance.
Year 4	Implement and enforce IDDE ordinance.
Year 5	Implement and enforce IDDE ordinance.
Year 5	Implementation complete.

3.5 Develop Record Keeping System for IDDE Tracking

3.5.0 Regulatory Requirement

The applicable regulatory requirement for this BMP is as follows:

6(a)(3)(A)(v) The permittee shall maintain a record of illicit discharge abatement activities including, at a minimum: location (identified with an address or latitude and longitude), description, date(s) of inspection, sampling data (if applicable), action(s) taken, date of removal or repair and responsible party(ies). This information shall be included in the permittee's Annual Report pursuant to the Section 6(j) of this permit.

3.5.1 BMP Description

The Town of Darien will develop a spreadsheet or other document to track illicit discharge abatement activities. The documentation will include:

- ▶ Location, description of discharge
- ▶ Date(s) of inspection
- ▶ Sampling data, if applicable
- ▶ Summary of actions taken, if applicable
- ▶ Date of removal or repair
- ▶ Responsible party/parties

The information on illicit discharge abatement activities will be included in the Town's Annual Report.

3.5.2 Implementation

Measurable Goal: Develop and implement documentation procedures for illicit discharge abatement activities. Update Annual Report with required abatement activity information pursuant to the updated MS4 permit.

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BMP 3.5: Develop Record Keeping System for IDDE Tracking Implementation Schedule

Permit Timeline	Activity
Year 1	Develop and implement procedure for tracking illicit discharge abatement activities. Update Annual Report with abatement activity information.
Year 2	Continue documentation of illicit discharge abatement activities. Update Annual Report with abatement activity information.
Year 3	Continue documentation of illicit discharge abatement activities. Update Annual Report with abatement activity information.
Year 4	Continue documentation of illicit discharge abatement activities. Update Annual Report with abatement activity information.
Year 5	Continue documentation of illicit discharge abatement activities. Update Annual Report with abatement activity information.
Year 5	Implementation complete.

3.6 Address IDDE in Areas with Pollutants of Concern

3.6.0 Regulatory Requirement

The applicable regulatory requirement for this BMP is as follows:

6(a)(3)(A)(iv) The permittee shall implement outfall screening and an illicit discharge detection protocol pursuant to Appendix B of the permit to identify, prioritize, and investigate separate storm sewer catchments for suspected illicit discharges of pollutants.

3.6.1 BMP Description

The Town of Darien shall implement outfall screening and the illicit discharge detection protocol as identified in its Written IDDE Program (see BMP 3.1: Develop Written IDDE Program).

The IDDE program will prioritize areas with the highest potential to discharge bacteria, phosphorus, and nitrogen to the MS4 to address septic system failures.

These priority areas will be identified based on:

- ▶ Historic on-site sanitary system failures
- ▶ Areas with local infiltrative soils
- ▶ Areas with shallow groundwater

The Town will update the Annual Report to include a summary of the IDDE program, the number of areas identified with failing systems, actions taken by the Town to respond to and address failures, and the anticipated pollutant reduction.

3.6.2 Implementation

Measurable Goal: Identify locations within Darien at risk of pollution by bacteria, phosphorus, and nitrogen, and explicitly prioritize these areas within the written IDDE program. Update the Annual Report with information on the prioritized areas, actions taken by the Town to address these areas, and the anticipated pollutant reduction.

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**BMP 3.6: Address IDDE in Areas with Pollutants of Concern
Implementation Schedule**

Permit Timeline	Activity
Year 1	Identify priority locations for IDDE program based on stormwater pollutants of concern. Tailor IDDE program to prioritize these locations and implement the program. Update Annual Report with information on the prioritized areas, actions taken by the Town to address these areas, and the anticipated pollutant reduction.
Year 2	Update list of priority locations for IDDE program. Implement IDDE program. Update the Annual Report with information on the prioritized areas, actions taken by the Town to address these areas, and the anticipated pollutant reduction.
Year 3	Update list of priority locations for IDDE program. Implement IDDE program. Update the Annual Report with information on the prioritized areas, actions taken by the Town to address these areas, and the anticipated pollutant reduction.
Year 4	Update list of priority locations for IDDE program. Implement IDDE program. Update the Annual Report with information on the prioritized areas, actions taken by the Town to address these areas, and the anticipated pollutant reduction.
Year 5	Update list of priority locations for IDDE program. Implement IDDE program. Update the Annual Report with information on the prioritized areas, actions taken by the Town to address these areas, and the anticipated pollutant reduction.
Year 5	Implementation complete.

Section 4

Construction Site Stormwater Runoff Controls

4.0 Regulatory Goals

The goal and regulatory requirement of this minimum control measure is the implementation and enforcement of a program to control stormwater discharges (to its MS4) associated with land disturbance or development (including redevelopment) activities from sites (as defined in CTDEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities) with one acre or more of soil disturbance, whether considered individually or collectively as part of a larger common plan.

Section 6(a)(4)(F) does not specify any additional targeted measures for impaired waters.

4.1 Implement, Upgrade and Enforce Land Use Regulations or Other Legal Authorities to Meet Requirements of MS4 General Permit

4.1.0 Regulatory Requirement

The applicable regulatory requirement for this BMP is as follows:

- 6(a)(4)(A)(i) The permittee shall establish an ordinance, bylaw, regulation, standard condition of approval or other appropriate legal authority that requires:
- a. Developers, construction site operators, or contractors to maintain consistency with the 2002 Guidelines for Soil Erosion and Sedimentation Control, as amended, the Connecticut Stormwater Quality Manual, and all stormwater discharge permits issued by the DEEP within the municipal or institutional boundary pursuant to CGS 22a-430 and 22a-430b;
 - b. the implementation of additional measures to protect/improve water quality (in addition to the above requirements) as deemed necessary by the municipality or institution

4.1.1 BMP Description

Darien currently has an existing framework in place for addressing stormwater issues through its Zoning Regulations.

The Town will continue to require that developers, construction site operators, or contractors maintain consistency with the *2002 Guidelines for Soil Erosion and Sedimentation Control*, as amended, to be eligible for certification. A Soil Erosion and Sediment Control Plan shall be submitted with any application for development when the disturbed area is cumulatively more than ½ acre.

Proposed stormwater management plans are required to conform to the technical guidance and procedures in the Town of Darien Department of Public Works (DPW) Stormwater Management and Drainage Manual. Plans are currently required if a project meets one or more of the following criteria:

- Construction of 1,000 square feet or more of impervious surface; or
- Demolition and reconstruction or replacement of an existing residential dwellings; or
- Submission of any application subject to review and action by the Planning and Zoning Commission if the activity is within the jurisdiction of that Commission and/or by the Environmental Protection Commission (EPC) if the activity is within the jurisdiction of the EPC.

In the Town's Zoning Regulations, Section 850: Land Filling, Excavation, and Earth Removal states that "No application shall be approved until the Commission shall be satisfied that proper provision shall be made to control... storm water runoff, including protection of watercourses, streams, ponds, and wetlands." Additionally, "excavation, fill, or grading shall not... cause any negative effects on storm water drainage, especially as it may impact adjacent properties."

Section 880, Stormwater Management, of the Town's Zoning Regulations are "intended to improve stormwater management and give reasonable consideration to the restoration and protection of the ecosystem and habitat of Long Island Sound," pursuant to CGS 8-2(b), 8-23(a), and 8-35a.

The Zoning Regulations for the Town of Darien are provided by link in the **Table of Contents**.

4.1.2 Implementation

Measurable Goal: Continue to require developers, construction site operators, or contractors maintain consistency with the 2002 Guidelines for Soil Erosion and Sedimentation Control, as amended, the 2004 Connecticut Stormwater Quality Manual, and all stormwater discharge permits issued by CTDEEP within the municipal or institutional boundary pursuant to CGS 22a-430 and 22a-430b.

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BMP 4.1: Implement, Upgrade and Enforce Land Use Regulations or Other Legal Authority to Meet Requirements of MS4 General Permit
Implementation Schedule

Permit Timeline	Activity
Year 1	Review existing requirements for adequacy, and require developers, construction site operators, and/or contractors to maintain consistency with the 2002 <i>Guidelines for Soil Erosion and Sedimentation Control</i> , as amended; the CT Stormwater Quality Manual; and all stormwater discharge permits issued by CTDEEP within the Town.
Year 2	Require developers, construction site operators, and/or contractors to maintain consistency with the 2002 <i>Guidelines for Soil Erosion and Sedimentation Control</i> , as amended; the CT Stormwater Quality Manual; and all stormwater discharge permits issued by CTDEEP within the Town.
Year 3	Require developers, construction site operators, and/or contractors to maintain consistency with the 2002 <i>Guidelines for Soil Erosion and Sedimentation Control</i> , as amended; the CT Stormwater Quality Manual; and all stormwater discharge permits issued by CTDEEP within the Town.
Year 4	Require developers, construction site operators, and/or contractors to maintain consistency with the 2002 <i>Guidelines for Soil Erosion and Sedimentation Control</i> , as amended; the CT Stormwater Quality Manual; and all stormwater discharge permits issued by CTDEEP within the Town.
Year 5	Require developers, construction site operators, and/or contractors to maintain consistency with the 2002 <i>Guidelines for Soil Erosion and Sedimentation Control</i> , as amended; the CT Stormwater Quality Manual; and all stormwater discharge permits issued by CTDEEP within the Town.
Year 5	Implementation complete.

4.2 Develop and Implement Plan for Interdepartmental Coordination in Site Plan Review and Approval

4.2.0 Regulatory Requirement

This BMP is based on the following regulatory requirement:

6(a)(4)(B)	Interdepartmental Coordination
(i)	The permittee will develop and implement a plan outlining how all municipal or institutional departments and boards with jurisdiction over the review, permitting, or approval of land disturbance and development projects within the MS4 will coordinate their functions with one another;
(ii)	All municipalities and institutions shall implement this measure upon the effective date of this permit.

4.2.1 BMP Description

The Town will develop and implement a plan outlining how all agencies, departments, and boards with jurisdiction over the review, permitting, or approval of land disturbance and development projects within the MS4 will coordinate their functions with one another.

4.2.2 Implementation

Measurable Goal: Develop and follow an Interdepartmental Coordination Plan for the management of stormwater quality.

Responsible Party: Edward L. Gentile, Jr., P.E.
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BMP 4.2: Develop and Implement Plan for Interdepartmental Coordination in Site Plan Review and Approval Implementation Schedule

Permit Timeline	Activity
Year 1	Develop and follow Interdepartmental Coordination Plan
Year 2	Follow Interdepartmental Coordination Plan.
Year 3	Follow Interdepartmental Coordination Plan.
Year 4	Follow Interdepartmental Coordination Plan.
Year 5	Follow Interdepartmental Coordination Plan.
Year 5	Implementation complete.

4.3 Review Site Plans for Stormwater Quality Concerns

4.3.0 Regulatory Requirement

The BMP is based on the following regulatory requirement:

6(a)(4)(C)	Site Review and Inspection
(i)	The permittee will conduct site plan reviews that incorporate consideration of stormwater controls or management practices to prevent or minimize impacts to water quality;
(ii)	The permittee will conduct site inspection(s) and enforcement to assess the adequacy of the installation, maintenance, operation, and repair of construction and post-construction control measures;

- (iii) All municipalities and institutions shall implement this measure upon the effective date of this permit.

4.3.1 BMP Description

Procedures for site plan review that incorporate consideration of potential water quality impacts are currently utilized by the Town of Darien: "Any application to the Commission for a Zoning Permit, Site Plan Approval, Coastal Site Plan Review, or subdivision approval shall be reviewed by the Planning and Zoning Director to determine if it involves any activity or work within a regulated area, and if so, shall incorporate the requirements of these Regulations in the application."

Site plans submitted to the Town are required to show existing and proposed drainage structures (culverts, catch basins, drainage ditches, dams, etc.), locations of all existing and proposed waste treatment facilities.

The Town will continue to implement its existing practice of engineering comments and site inspections, and will update the site plan review process as needed to provide consistency with updated MS4 regulations. Site plan reviews will incorporate consideration of stormwater management practices to prevent or minimize impacts to water quality.

The Town will also conduct site inspection(s) to assess the adequacy of the installation, maintenance, and repair of construction and post-construction control measures.

4.3.2 Implementation

Measurable Goal: Review and update, if needed, the Town site review and inspection process by July 1, 2017. Continue the review and inspection process throughout the duration of the permit.

Responsible Party: Edward L. Gentile, Jr., P.E.
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BMP 4.3: Review Site Plans for Stormwater Quality Concerns Implementation Schedule

Permit Timeline	Activity
July 1, 2017	Continue Implementation of Site Plan Review and Inspection Process
Year 1	Continue implementing updated site plan review process, site inspections, and enforcement.
Year 2	Continue implementing updated site plan review process, site

BMP 4.3: Review Site Plans for Stormwater Quality Concerns Implementation Schedule

Permit Timeline	Activity
	inspections, and enforcement.
Year 3	Continue implementing updated site plan review process, site inspections, and enforcement.
Year 4	Continue implementing updated site plan review process, site inspections, and enforcement.
Year 5	Continue implementing updated site plan review process, site inspections, and enforcement.
Year 5	Implementation complete.

4.4 Conduct Site Inspections

4.4.0 Regulatory Requirement

Such programs shall include the following elements:

- 6(a)(4)(A)(i) The permittee shall establish an ordinance, bylaw, regulation, standard condition of approval or other appropriate legal authority that requires:
- c. The permittee to carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with municipal regulations, ordinances or programs or institutional requirements related to the management of the permittee's MS4. Specifically, inspections shall be conducted, where allowed, to inventory the number of privately-owned retention ponds, detention ponds and other stormwater basins that discharge to or receive drainage from the permittee's MS4

4.4.1 BMP Description

The Town of Darien will include as a standard condition of approval in its land use approvals to obligate the applicant/landowner to carry out all inspection, surveillance and monitoring procedures necessary to comply with municipal regulations, ordinances or programs or institutional requirements related to the MS4. Applicant/landowners shall submit annual maintenance / inspection reports to the Town. This condition will run with the land in perpetuity.

At existing locations, these inspections shall be conducted by the Town, where allowed, per access agreement, to inventory the number of privately-owned retention ponds, detention ponds, and other stormwater basins that discharge to or receive drainage from the permittee's MS4.

Currently, Section 850 of the Zoning Regulations for the Town of Darien states: "Inspections shall be made by the Commission or its designated agent during

development to ensure compliance with the certified plan and that control measures and facilities have been properly performed or installed and maintained. The Commission may require the permittee to verify through progress reports that soil erosion and sediment control measures and facilities have been performed or installed according to the certified plan and are being operated and maintained."

4.4.2 Implementation

Measurable Goal: Establish, by July 1, 2019, a standard condition of approval that will obligate the applicant/landowner to carry out all inspection, surveillance and monitoring procedures necessary to comply with municipal regulations, ordinances or programs or institutional requirements related to the MS4. Conduct inspection at existing locations, where allowed per access agreement(s), to inventory the number of privately-owned retention ponds, detention ponds, and other stormwater basins that discharge to or receive drainage from the permittee's MS4. Inventory the number of privately-owned retention ponds, detention ponds, and other stormwater basins that discharge to or receive drainage from the Town's MS4.

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BMP 4.4: Conduct Site Inspections Implementation Schedule

Permit Timeline	Activity
Year 1	Evaluate and update draft standard condition of approval. Inventory privately-owned retention and detention ponds, and other stormwater basins that discharge to/receive drainage from the Town's MS4.
Year 2	Implement standard condition of approval. Continue to inventory privately-owned retention and detention ponds, and other stormwater basins that discharge to/receive drainage from the Town's MS4.
Year 3	Enforce regulations and conditions regarding site inspections. Continue to inventory privately-owned retention and detention ponds, and other stormwater basins that discharge to/receive drainage from the Town's MS4.
Year 4	Enforce regulations and conditions regarding site inspections. Continue to inventory privately-owned retention and detention ponds, and other stormwater basins that discharge to/receive drainage from the Town's MS4.
Year 5	Enforce regulations and conditions regarding site inspections. Continue to inventory privately-owned retention and detention ponds, and other stormwater basins that discharge to/receive drainage from the Town's MS4.
Year 5	Implementation complete.

4.5 Implement Procedure to Allow Public Comment on Site Development

4.5.0 Regulatory Requirement

The BMP is based on the following regulatory requirement:

6(a)(4)(D) Public Involvement

- (i) The permittee will implement a procedure for receipt and consideration of information submitted by the public concerning proposed and ongoing land disturbance and development activities;
- (ii) All municipalities and institutions shall implement this procedure upon the effective date of this permit.

4.5.1 Public Involvement

The Town will develop and implement a procedure for receipt and consideration of information submitted by the public concerning proposed and ongoing land disturbance and development activities.

4.5.2 Implementation

Measurable Goal: Develop and implement a written procedure for collecting and reviewing citizen feedback regarding proposed and ongoing land disturbance and development activities by July 1, 2017, and continue to follow the procedure through the duration of the permit.

Responsible Party: Edward L. Gentile, Jr., P.E.
Director of Public Works
Room 208, Town Hall
2 Renshaw Road
Darien, CT 06820
203-656-7346

BMP 4.5: Implement Procedure to Allow Public Comment on Site Development Implementation Schedule

Permit Timeline	Activity
July 1, 2017	Develop and implement written procedure for collecting and reviewing citizen feedback regarding proposed and ongoing land disturbance and development activities.
Year 1	Continue collecting and responding to citizen feedback.
Year 2	Continue collecting and responding to citizen feedback.
Year 3	Continue collecting and responding to citizen feedback.
Year 4	Continue collecting and responding to citizen feedback.
Year 5	Continue collecting and responding to citizen feedback.

BMP 4.5: Implement Procedure to Allow Public Comment on Site Development Implementation Schedule

Permit Timeline	Activity
Year 5	Implementation complete.

4.6 Implement Procedure to Notify Developers about CTDEEP Construction Stormwater Permit

4.6.0 Regulatory Requirement

The BMP is based on the following regulatory requirement:

- 6(a)(4)(E) State Permit Notification
- (i) The permittee will implement a procedure for notifying developers (working in a municipality) or contractors (working for a municipality or an institution) of their potential obligation to obtain authorization under the CT DEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities ("construction general permit") if their development or redevelopment project disturbs one or more acres of land, either individually or collectively, as part of a larger common plan, and results in a point source discharge to the surface waters of the state directly or through the permittee's MS4. The notification shall include a provision informing the developer/contractor of their obligation to provide a copy of the Storm Water Pollution Control Plan (required by the construction general permit) to the permittee upon request;
 - (ii) All municipalities and institutions shall implement this procedure upon the effective date of this permit.

4.6.1 BMP Description

The Town implement a standard condition of approval for notifying developers (working in a municipality) or contractors (working for a municipality or an institution) of their potential obligation to obtain authorization under CTDEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities if their development or redevelopment project disturbs one or more acres of land, either individually or collectively, as part of a larger common plan, and results in a point source discharge to the surface waters of the state directly or through the Town's MS4.

4.6.2 Implementation

Measurable Goal: Evaluate the procedure for notifying developers or contractors about the potential need for DEEP's General Permit by July 1, 2017, and modify as needed to meet 2017 MS4 goal. Continue to provide notification throughout the permit term.

Responsible Party: Edward L. Gentile, Jr., P.E.
Director of Public Works
Room 208, Town Hall
2 Renshaw Road
Darien, CT 06820
203-656-7346

BMP 4.6: Implement Procedure to Notify Developers about CTDEEP Construction Stormwater Permit Implementation Schedule

Permit Timeline	Activity
July 1, 2017	Continue the Town's procedure for notifying applicants of their potential obligation to register for the Construction General Permit.
Year 1	Continue notification of applicants of their potential responsibility to register for the CTDEEP Construction General Permit.
Year 2	Continue notification of applicants of their potential responsibility to register for the CTDEEP Construction General Permit.
Year 3	Continue notification of applicants of their potential responsibility to register for the CTDEEP Construction General Permit.
Year 4	Continue notification of applicants of their potential responsibility to register for the CTDEEP Construction General Permit.
Year 5	Continue notification of applicants of their potential responsibility to register for the CTDEEP Construction General Permit.
Year 5	Implementation complete.

4.7 Require Maintenance and Operation Plans

4.7.0 Regulatory Requirement

The BMP is based on the following regulatory requirement:

- 6(a)(4)(A)(i) The permittee shall establish an ordinance, bylaw, regulation, standard condition of approval or other appropriate legal authority that requires:
- d. The owner of a site seeking development approval from the permittee to provide and comply with a long-term maintenance plan and schedule to ensure the performance and pollutant removal efficiency of privately-owned retention ponds,

detention ponds and other stormwater basins that discharge to or receive discharge from the permittee's MS4 including short-term and long-term inspection and maintenance measures to be implemented by the private owners;

4.7.1 BMP Description

Currently, Section 880 of the Town's Zoning Regulations lists a Maintenance and Operation Plan as a basic component of the stormwater management plans submitted to the Town. ("Maintenance of drainage facilities and systems constructed or modified as part of a proposed development, is the responsibility of the property owner, unless otherwise dedicated to, or the acknowledged responsibility of, a government agency or other entity.")

The Town will require owners of privately owned systems to maintain maintenance records and to produce them upon request.

4.7.2 Implementation

Measurable Goal: Evaluate and update existing Town regulations, by July 1, 2019, to require that all owners of sites seeking development approval from the Town provide and comply with a long-term maintenance plan and schedule to ensure the performance and pollutant-removal efficiency of privately-owned retention ponds, detention ponds, and other stormwater basins that discharge to or receive discharge from the Town's MS4.

Responsible Party: Edward L. Gentile, Jr., P.E.
Director of Public Works
Room 208, Town Hall
2 Renshaw Road
Darien, CT 06820
203-656-7346

BMP 4.7: Require Operation and Maintenance Plans Implementation Schedule

Permit Timeline	Activity
Year 1	Evaluate current regulations for consistency with MS4 permit.
Year 2	Update (as needed) and enforce regulations regarding the requirement of maintenance and operations plans from owner(s) of site(s) seeking development approval from the Town.
Year 3	Enforce regulations regarding the requirement of maintenance and operations plans from owner(s) of site(s) seeking development approval from the Town.
Year 4	Enforce regulations regarding the requirement of maintenance and operations plans from owner(s) of site(s) seeking development approval from the Town.
Year 5	Enforce regulations regarding the requirement of maintenance and operations plans from owner(s) of site(s) seeking development approval

BMP 4.7: Require Operation and Maintenance Plans Implementation Schedule

Permit Timeline	Activity
	from the Town.
Year 5	Implementation complete.

4.8 Interjurisdictional Agreements

4.8.0 Regulatory Requirement

The BMP is based on the following regulatory requirement:

- 6(a)(4)(A)(i) The permittee shall establish an ordinance, bylaw, regulation, standard condition of approval or other appropriate legal authority that requires:
- e. The permittee to control through interagency or inter-jurisdictional agreements, the contribution of pollutants between the permittee's MS4 and MS4s owned or operated by others.

4.8.1 BMP Description

The Town will establish one or more interjurisdictional agreements to clarify the Town's control over the contribution of pollutants between the Town's MS4 and MS4s owned and operated by others. Such agreements will be pursued with the Connecticut Department of Transportation and all bordering Towns.

4.8.2 Implementation

Measurable Goal: Establish by July 1, 2019 one or more interjurisdictional agreements that describe the Town's control over contribution of pollutants between the Town's MS4 and MS4s owned and operated by others.

Responsible Party: Edward L. Gentile, Jr., P.E.
Director of Public Works
Room 208, Town Hall
2 Renshaw Road
Darien, CT 06820
203-656-7346

BMP 4.8: Interjurisdictional Agreements Implementation Schedule

Permit Timeline	Activity
Year 1	Identify locations where Darien's MS4 discharges into the MS4 of a neighboring community. Notify adjoining communities.
Year 2	Establish and enforce interjurisdictional agreement(s) regarding control over contribution of pollutants between MS4s.
Year 3	Maintain and enforce interjurisdictional agreement(s) regarding control over contribution of pollutants between MS4s.
Year 4	Maintain and enforce interjurisdictional agreement(s) regarding control over contribution of pollutants between MS4s.
Year 5	Maintain and enforce interjurisdictional agreement(s) regarding control over contribution of pollutants between MS4s.
Year 5	Implementation complete.





Section 5

Post-Construction Stormwater Management in New Development and Redevelopment

5.0 Regulatory Goals

The goal and regulatory requirement for this minimum control measure is to establish the legal authority that requires a developer or contractor seeking the permittee's approval to consider the use of low impact development ("LID") and runoff reduction site planning and development practices.

The following targeted measures for impaired waters are required per Section (6)(a)(5)(E) of the permit:

 <p>Phosphorus</p>	<p>To address erosion and sediment problems noted during the course of conducting the inspections required by subsection D above and identified by other means, the permittee shall develop, fund, implement, and prioritize these problems under the Retrofit program specified in Section 6(a)(6)(B) of the permit to correct the problem(s) in a specific timeframe and to establish short term and long term maintenance. Each annual report shall include which problem areas were retrofitted, the cost of the retrofit, and the anticipated pollutant reduction.</p>
 <p>Nitrogen</p>	
 <p>Bacteria</p>	
 <p>Mercury</p>	<p>No additional targeted measures required.</p>

5.1 Evaluate and Update Legal Authority Regarding LID and Runoff Reduction in Site Development Planning

5.1.0 Regulatory Requirement

This BMP is based upon the following regulatory requirement from the permit:

6(a)(5)(A)(i) The permittee shall establish an ordinance, bylaw, regulation, standard condition of approval or other appropriate legal authority that requires, to the MEP, that a developer or contractor seeking the permittee's approval shall consider the use of low impact development ("LID") and runoff reduction site planning and development practices prior to the consideration of other practices in the permittee's land use regulations, guidance or construction project requirements to meet or exceed those

LID and runoff reduction practices identified in the Stormwater Quality Manual. Such legal authority shall include the following standards: 1) for redevelopment of sites that are currently developed with Directly Connected Impervious Area (DCIA) of forty percent or more, retain on-site half the water quality volume for the site, or 2) for new development and redevelopment of sites with less than forty percent DCIA, retain the water quality volume for the site, or 3) an alternate retention/treatment standard as outlined in subsections 5(B)(i)-(ii) below. All permittees shall identify and, where appropriate, reduce or eliminate existing local regulatory barriers to implementing LID and runoff reduction practices to the MEP. These may include site planning requirements, zoning regulations, street design regulations, or infrastructure specifications that address minimal dimensional criteria for the creation of roadways, parking lots, and other DCIA. If such barriers cannot be eliminated within the timeframe dictated by subsections 5(A)(ii) and (iii) below, the permittee shall provide in the Annual Report(s) required by Section 6(j) of the permit a justification and a revised schedule for implementation.

In establishing the legal authority, the permittee shall consider the following watershed protection elements to manage the impacts of stormwater on receiving waters, except where noted:

- a) Minimize the amount of impervious surfaces (roads, parking lots, roofs, etc.) within each municipality by minimizing the creation, extension, and widening of parking lots, roads, and associated development and encourage the use of Low Impact Development or green infrastructure practices.
- b) Preserve, protect, create and restore ecologically sensitive areas that provide water quality benefits and serve critical watershed functions. These areas may include, but are not limited to; riparian corridors, headwaters, floodplains and wetlands.
- c) Implement stormwater management practices that prevent or reduce thermal impacts to streams, including requiring vegetated buffers along waterways, and disconnecting discharges to surface waters from impervious surfaces such as parking lots.
- d) Seek to avoid or prevent hydromodification of streams and other water bodies caused by development, including roads, highways, and bridges.
- e) Implement standards to protect trees, and other vegetation with important evapotranspirative qualities.
- f) Implement policies to protect native soils, prevent topsoil stripping, and prevent compaction of soils.

5.1.1 BMP Description

The Town will review and update their existing regulations related to Post-Construction Stormwater Controls so that their land use regulations require, to the MEP, that a developer/contractor seeking Town approval shall consider the use of LID and runoff reduction site planning and development practices prior to the consideration of other practices. The goal is to meet or exceed the LID and runoff reduction practices identified in the 2004 Connecticut Stormwater Quality Manual.

The updated regulations will include the following standards: 1) for redevelopment of sites that are currently developed with DCIA of 40% or more, retain on-site half the water quality volume for the site, or 2) for new development and redevelopment of sites with less than 40% DCIA, retain the water quality volume for the site, or 3) an alternate retention/treatment standard.

The Town will also evaluate, identify, and, where appropriate, reduce or eliminate existing local regulatory barriers to implementing low impact design (LID) and runoff reduction practices to the MEP. Where identified barriers are not eliminated in the timeframe prescribed, the Town will describe a justification and revised implementation schedule in the relevant Annual Report(s).

Elements that may be considered in the update to existing regulations include minimizing the amount of impervious surface within the town; preserving, protecting, creating, and restoring ecologically sensitive areas that provide water quality benefits and serve critical watershed functions; implementing stormwater management practices that reduce thermal impacts to streams; preventing hydromodification of water bodies caused by development; implementing standards to protect trees and other vegetation; and implementing policies to protect native soils, preventing topsoil stripping, and preventing compaction of soils.

The Town will complete its evaluation, and will implement this requirement no later than four years after the effective date of the permit

5.1.2 Implementation

Measurable Goal: Review existing ordinances and procedures related to low impact design and runoff reduction in site development planning, and will update them as needed to maintain consistency with the updated MS4 regulations.

Responsible Party: Edward L. Gentile, Jr., P.E.
Director of Public Works
Room 208, Town Hall
2 Renshaw Road
Darien, CT 06820
203-656-7346

BMP 5.1: Evaluate and Update Legal Authority Regarding LID and Runoff Reduction in Site Development Planning Implementation Schedule

Permit Timeline	Activity
Year 1	Review and evaluate existing relevant ordinances, regulations and procedures.
Year 2	Review and evaluate existing relevant ordinances, regulations and procedures.
Year 3	Draft updates and revisions to relevant ordinances, regulations and procedures.
Year 4	Implement updates and revisions to relevant ordinances, regulations and procedures.
Year 5	Continue enforcement of updated and revised relevant ordinances, regulations, and ordinances.
Year 5	Implementation complete.

5.2 Enforce LID/Runoff Reduction Requirements for Development and Redevelopment Projects

5.2.0 Regulatory Requirement

The BMP is based upon the following regulatory requirement from the permit:

- 6(a)(5)(B) Pursuant to the requirements of subsection (5)(A)(i) above, the permittee shall require the party responsible (i.e. a developer within a municipal boundary or a developer/contractor with the institution) for development and redevelopment projects within its MS4 to:
- (i) For development or redevelopment of sites that are currently developed with Directly Connected Impervious Area (DCIA) of forty percent or more, retain onsite half the water quality volume for the site. In cases where this entire amount cannot be retained, the permittee shall require the responsible party to retain runoff volume to the maximum extent achievable using control measures that are technologically available and economically practicable and achievable in light of best industry practice. In such cases, additional stormwater treatment, to the maximum extent achievable using control measures that are technologically available and economically practicable and achievable in light of best industry practice, shall be required for sediment, floatables and nutrients for the volume above that which can be retained up to the water quality volume. In cases where the runoff reduction requirement cannot be met, the developer/contractor shall submit, for the permittee's review, a report detailing factors limiting the capability of achieving this goal. In such cases, the permittee shall approve a stormwater mitigation project on another site proposed by

the developer/contractor or approve a fee to be deposited into a dedicated account of the permittee for use by the permittee to fund in whole or in part the retrofit of one or more existing DCIA. Unless such fee is established by DEEP, the fee proposed by the developer/contractor should be set in amount approved by the permittee as calculated based on an estimate of the cost necessary to implement the retrofit to achieve a similar amount of runoff reduction to the amount by which the actual amount of runoff reduced fails to achieve the requirement to retain the water quality volume for the site. The report shall include: the measures taken to maximize runoff reduction practices on the site; the reasons why those practices constitute the maximum extent achievable; the alternative retention volume; and a description of the measures used to provide additional stormwater treatment above the alternate volume up to the water quality volume. In the case of linear redevelopment projects (e.g. roadway reconstruction or widening) for the developed portion of the right of way: (1) for projects that may be unable to comply with the full retention standard, the alternate retention and treatment provisions may also be applied as specified above, or (2) for projects that will not increase the DCIA within a given watershed, the developer/contractor shall implement the additional stormwater treatment measures referenced above, but will not be required to retain half of the water quality volume.

- (ii) For all new development and for redevelopment of sites with less than forty percent DCIA, retain the water quality volume for the site. If there are site constraints that would prevent retention of this volume on-site (e.g. brownfields, capped landfills, bedrock, elevated groundwater, etc.), documentation must be submitted, for the permittee's review and written approval, which: explains the site limitations; provides a description of the runoff reduction practices implemented; provides an explanation of why this constitutes the maximum extent achievable; offers an alternative retention volume; and provides a description of the measures used to provide additional stormwater treatment for sediment, floatables and nutrients above the alternate volume up to the water quality volume. In such cases, the permittee shall approve a stormwater mitigation project on another site proposed by the developer/contractor or approve a fee to be deposited into a dedicated account of the permittee for use by the permittee to fund in whole or in part the retrofit of one or more existing DCIA. Unless such fee is established by CT DEEP, the fee proposed by the developer/contractor should be set in amount approved by the permittee as calculated based on an estimate of the cost necessary to implement the retrofit to achieve a similar amount of runoff reduction to the amount by which the actual amount of runoff reduced fails to achieve the requirement to retain the water quality volume for the site. Any such treatment shall otherwise be designed, installed and maintained consistent with the Stormwater Quality Manual. In

the case of linear projects that do not involve impervious surfaces (e.g. electrical transmission rights-of-way or natural gas pipelines), retention of the water quality volume is not required as long as the post-development runoff characteristics do not differ significantly from pre-development conditions.

5.2.1 BMP Description

The Town shall establish a legal authority that requires developers or contractors seeking permitting approval from the Town to implement low impact development and runoff reduction site planning and development practices to meet or exceed the practices identified in the 2004 Connecticut Stormwater Quality Manual.

Developers or contractors seeking the Town's permitting approval will be required to:

- ▶ Retain onsite half of the water quality volume for the site, for development or redevelopment of sites with DCIA of 40% or more;
- ▶ Retain onsite the entire water quality volume for the site, for new development or redevelopment of sites with DCIA of less than 40%.

In cases where these regulations cannot be followed, the Town will require developers and/or contractors to follow the alternative measures as outlined in the permit.

The Town will require the implementation of LID measures within two years of the effective date of the permit.

5.2.2 Implementation

Measurable Goal: Establish regulations to require any party responsible for development and redevelopment projects within its MS4 to first consider implementation of runoff reduction/LID measures as specified in the MS4 permit.

Responsible Party: Edward L. Gentile, Jr., P.E.
Director of Public Works
Room 208, Town Hall
2 Renshaw Road
Darien, CT 06820
203-656-7346

BMP 5.2: Enforce LID/Runoff Reduction Requirements for Development and Redevelopment Projects Implementation Schedule

Permit Timeline	Activity
Year 1	Update or develop regulations and/or design guidelines that require developers/contractors to first consider implementation of LID/runoff reduction measures for development and redevelopment projects in the

BMP 5.2: Enforce LID/Runoff Reduction Requirements for Development and Redevelopment Projects

Implementation Schedule

Permit Timeline	Activity
	Town as specified in the MS4 permit.
Year 2	Implement and enforce LID/runoff reduction regulations.
Year 3	Continue to enforce LID/runoff reduction regulations.
Year 4	Continue to enforce LID/runoff reduction regulations.
Year 5	Continue to enforce LID/runoff reduction regulations.
Year 5	Implementation complete.

5.3 Implement Long-Term Maintenance Plan for Stormwater Basins and Treatment Structures

5.3.0 Regulatory Requirement

This BMP is based upon the following regulatory requirement from the permit:

6(a)(5)(D) Long Term Maintenance

- (i) The permittee shall implement a maintenance plan for ensuring the long-term effectiveness of retention or detention ponds located in the Urbanized Area and those catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters and which discharge to, or receive stormwater from, its MS4. This shall include such ponds that are owned by the permittee and all privately-owned ponds where the permittee maintains an easement or other legal authority pursuant to Section 6(a)(4)(A)(i) of this permit. At a minimum, the permittee shall annually inspect all such retention or detention ponds and remove accumulated sediment to restore full solids capture design capacity where found to be in excess of 50% design capacity.
- (ii) The permittee shall implement a maintenance plan for ensuring the long-term effectiveness of stormwater treatment structures or measures (such as swirl concentrators, oil/grit separators, water quality wetlands or swales, etc.) installed within the Urbanized Area and those catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters. This shall include structures that are owned by the permittee or those for which the permittee maintains an easement or other legal authority pursuant to Section 6(a)(4c)(A)(i) of this permit. At a minimum, the permittee shall annually inspect all such structures/measures and remove accumulated pollutants (such as sediment, oils, leaves, litter, etc.) to restore full solids capture design capacity where found to be in excess of 50% design capacity.

5.3.1 BMP Description

The Town shall require new land use applicants to implement a maintenance plan for ensuring the long-term effectiveness of:

- ▶ Retention or detention ponds that are located within the Urbanized Area and those catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters and which discharge to or receive stormwater from its MS4; and
- ▶ Stormwater treatment structures or measures installed within the UA and those catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters.

At minimum, this maintenance plan will require the property owner(s) to annually inspect retention or detention ponds and stormwater treatment structures or measures that it owns.

Following these inspections, the facility owner will remove accumulated sediment (in retention or detention ponds) or pollutants (in stormwater treatment structures/measures) to restore full solids capture design capacity where found to be in excess of 50% design capacity.

5.3.2 Implementation

Measurable Goal: For Town-owned stormwater treatment practices, develop and implement a long-term maintenance plan by July 1, 2019 in the UA and those catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters and which discharge to or receive stormwater from its MS4. For new privately-owned system, require maintenance and operations plans and require records to be kept by the owner, to be produced to the Town upon request.

Responsible Party: Edward L. Gentile, Jr., P.E.
Director of Public Works
Room 208, Town Hall
2 Renshaw Road
Darien, CT 06820
203-656-7346

BMP 5.3: Implement Long-Term Maintenance Plan for Stormwater Basins and Treatment Structures

Implementation Schedule

Permit Timeline	Activity
Year 1	Prepare draft condition of approval for inspection access. Require operation and maintenance plans.
Year 2	Implement standard approval condition and operation and maintenance plan policy.

BMP 5.3: Implement Long-Term Maintenance Plan for Stormwater Basins and Treatment Structures

Implementation Schedule

Permit Timeline	Activity
Year 3	Continue standard approval condition and operation and maintenance plan policy.
Year 4	Continue standard approval condition and operation and maintenance plan policy.
Year 5	Continue standard approval condition and operation and maintenance plan policy.
Year 5	Implementation complete.

5.4 DCIA Mapping

5.4.0 Regulatory Requirement

The BMP is based upon the following regulatory requirement from the permit:

6(a)(5)(C) Using mapping provided by CTDEEP or other equivalent source, the permittee shall calculate the DCIA that contributes stormwater runoff to each of its MS4 outfalls (i.e. catchment area) within three (3) years of the effective date of this general permit. The DCIA calculations shall be based upon the criteria available through the CT DEEP stormwater webpage (www.ct.gov/deep/municipalstormwater) and the precise methodology and assumptions shall be described in the permittee's Plan and initial annual report. Each annual report shall document the progress of this task until its completion. The Permittee shall revise its DCIA estimate as development, redevelopment, or retrofit projects effectively add or remove DCIA to its MS4,

5.4.1 BMP Description

The Town shall calculate the Directly Connected Impervious Area (DCIA) that contributes stormwater runoff to each of its MS4 outfalls. These calculations will be complete within three years from the effective date of the permit.

The Town will calculate DCIA using data from WestCOG, or the method outlined by CTDEEP, which is included in **Appendix E**. Calculations will be based on the criteria specified on the CTDEEP Stormwater page, and will be revised and updated as development, redevelopment, or retrofit projects add or remove DCIA to the MS4.

5.4.2 Implementation

Measurable Goal: Calculate the DCIA that contributes stormwater runoff to each MS4 outfall by July 1, 2020, and update calculations as DCIA is added or removed within the Town.

Responsible Party: Edward L. Gentile, Jr., P.E.
 Director of Public Works
 Room 208, Town Hall
 2 Renshaw Road
 Darien, CT 06820
 203-656-7346

BMP 5.4: DCIA Mapping Implementation Schedule

Permit Timeline	Activity
Year 1	Calculate the DCIA that contributes to at least 33% of the outfalls within the Town's MS4.
Year 2	Calculate the DCIA that contributes to at least 34% of the outfalls within the Town's MS4
Year 3	Calculate the DCIA that contributes to at least 33% of the outfalls within the Town's MS4
Year 4	Update DCIA calculations to reflect any new development, redevelopment, or retrofit projects.
Year 5	Update DCIA calculations to reflect any new development, redevelopment, or retrofit projects.
Year 5	Implementation complete.

5.5 Address Post-Construction Issues in Areas with Pollutants of Concern

5.5.0 Regulatory Requirement

The BMP is based upon the following regulatory requirement from the permit:

6(a)(5)(E)(i) For waters for which Nitrogen, Phosphorus or Bacteria is a Stormwater Pollutant of Concern:

To address erosion and sediment problems noted during the course of conducting the inspections required by subsection D above and identified by other means, the permittee shall develop, fund, implement, and prioritize these problems under the Retrofit program specified in Section 6(a)(6)(B) to correct the problem(s) in a specific timeframe and to establish short term and long term maintenance. Each annual report shall include which problem areas were retrofitted, the cost of the retrofit, and the anticipated pollutant reduction.

5.5.1 BMP Description

The Town shall develop, fund, implement, and prioritize solutions to any erosion and sediment problems identified during inspections (conducted pursuant to the BMPs above) or noted otherwise, in impaired waters for which nitrogen, phosphorus, or bacteria is a stormwater pollutant of concern on its property, or use its legal authority to the extent available to hold property owners accountable for such solutions.

The Town shall either correct the identified problem(s) in a specific timeframe, or require compliance from property owners in violation of stormwater quality regulations. Darien will establish short-term and long-term maintenance plans to address problems identified in impaired waters. This process will be conducted under the Retrofit program that shall be established pursuant to the MS4 permit.

5.5.2 Implementation

Measurable Goal: Identify water quality problems associated with stormwater pollutants of concern through citizen complaints, outfall screening, or observations through normal maintenance activity throughout the duration of the permit. Develop, fund, implement, and prioritize corrections to these to identified erosion and sediment problems in impaired waters. Corrections will take place in specific timeframes and will establish short-term and long-term maintenance solutions to the problem.

Responsible Party: Edward L. Gentile, Jr., P.E.
Director of Public Works
Room 208, Town Hall
2 Renshaw Road
Darien, CT 06820
203-656-7346

BMP 5.5: Address Post-Construction Issues in Areas with Pollutants of Concern Implementation Schedule

Permit Timeline	Activity
Year 1	Identify erosion and sediment problems in impaired waters. Develop and implement short- and long-term maintenance solutions to the problems as funding becomes available, or use legal authority to hold property owners accountable. Update annual report with identification of problem areas, the cost of the retrofit, and the anticipated pollutant reduction.
Year 2	Identify erosion and sediment problems in impaired waters. Develop and implement short- and long-term maintenance solutions to the problems as funding becomes available, or use legal authority to hold property owners accountable. Update annual report with identification of problem areas, the cost of the retrofit, and the anticipated pollutant reduction.
Year 3	Identify erosion and sediment problems in impaired waters. Develop and implement short- and long-term maintenance solutions to the problems as funding becomes available, or use legal authority to hold property owners accountable. Update annual report with identification of problem areas, the cost of the retrofit, and the anticipated pollutant reduction.

BMP 5.5: Address Post-Construction Issues in Areas with Pollutants of Concern Implementation Schedule

Permit Timeline	Activity
Year 4	Identify erosion and sediment problems in impaired waters. Develop and implement short- and long-term maintenance solutions to the problems as funding becomes available, or use legal authority to hold property owners accountable. Update annual report with identification of problem areas, the cost of the retrofit, and the anticipated pollutant reduction.
Year 5	Identify erosion and sediment problems in impaired waters. Develop and implement short- and long-term maintenance solutions to the problems as funding becomes available, or use legal authority to hold property owners accountable. Update annual report with identification of problem areas, the cost of the retrofit, and the anticipated pollutant reduction.
Year 5	Implementation complete.

5.6 Reduction of Turfed Areas

5.6.0 Regulatory Requirement

The BMP is based upon the following regulatory requirement from the permit:

- 6(a)(5)(B) Pursuant to the requirements of subsection (5)(A)(i) above, the permittee shall require the party responsible (i.e. a developer within a municipal boundary or a developer/contractor with the institution) for development and redevelopment projects within its MS4 to:
- (1) Consider the limitation of turf areas to those areas necessary to construct buildings, utilities, stormwater management measures, parking, access ways, reasonable lawn areas and contouring necessary to prevent future site erosion,

5.6.1 BMP Description

In developing the LID regulations as required in BMP 5.1: Evaluate and Update Legal Authority Regarding LID and Runoff Reduction in Site Development Planning, the Town shall also consider language regarding the limitation of turfed areas to protect existing vegetative buffers to the maximum extent practicable.

5.6.2 Implementation

Measurable Goal: Consider requirements for turf area reduction in their updated regulations and policies (concurrent with BMP 5.1).

Responsible Party: Edward L. Gentile, Jr., P.E.
 Director of Public Works
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BMP 5.6: Reduction of Turfed Areas Implementation Schedule

Permit Timeline	Activity
Year 1	Review need for requirements for turf reduction.
Year 2	Incorporate turf reduction into LID/runoff reduction regulations, if warranted.
Year 3	Implement and enforce turf reduction provisions of LID/runoff reduction regulations, if included.
Year 4	Implement and enforce turf reduction provisions of LID/runoff reduction regulations, if included
Year 5	Implement and enforce turf reduction provisions of LID/runoff reduction regulations, if included
Year 5	Implementation complete.

5.7 Require Consistency with Stormwater Quality Manual

5.7.0 Regulatory Requirement

This BMP is based upon the following regulatory requirement from the permit:

6(a)(5)(B) Pursuant to the requirements of subsection (5)(A)(i) above, the permittee shall require the party responsible (i.e. a developer within a municipal boundary or a developer/contractor with the institution) for development and redevelopment projects within its MS4 to:

(2) Maintain consistency with the Connecticut Stormwater Quality Manual, or if inconsistent, provide an explanation of why consistency is not feasible or practicable and information that the proposed plan of development is adequately protective

5.7.1 BMP Description

The Town has its own Stormwater Management Regulations (Section 880), which are consistent and more stringent than the 2004 Connecticut Stormwater Quality Manual. For example, the Town requires for new site development that no credit be taken for existing impervious coverage.

5.7.2 Implementation

Measurable Goal: Review the Town's Stormwater management Regulations for consistency with new amendments to the 2004 Stormwater Quality Manual yearly, and update the Town's regulations where the Manual is more stringent than the Town's regulations.

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BMP 5.7: Consistency with Stormwater Manual Implementation Schedule

Permit Timeline	Activity
Year 1	Review the Town's Stormwater management Regulations for consistency with new amendments to the 2004 Stormwater Quality Manual yearly, and update the Town's regulations where the Manual is more stringent than the Town's regulations.
Year 2	Review the Town's Stormwater management Regulations for consistency with new amendments to the 2004 Stormwater Quality Manual yearly, and update the Town's regulations where the Manual is more stringent than the Town's regulations.
Year 3	Review the Town's Stormwater management Regulations for consistency with new amendments to the 2004 Stormwater Quality Manual yearly, and update the Town's regulations where the Manual is more stringent than the Town's regulations.
Year 4	Review the Town's Stormwater management Regulations for consistency with new amendments to the 2004 Stormwater Quality Manual yearly, and update the Town's regulations where the Manual is more stringent than the Town's regulations.
Year 5	Review the Town's Stormwater management Regulations for consistency with new amendments to the 2004 Stormwater Quality Manual yearly, and update the Town's regulations where the Manual is more stringent than the Town's regulations.
Year 5	Implementation complete.d

5.8 Coordination with Local Health Department

5.8.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(5)(B) Pursuant to the requirements of subsection (5)(A)(i) above, the permittee shall require the party responsible (i.e. a developer within a municipal boundary or a developer/contractor with the institution) for development and redevelopment projects within its MS4 to:

- (2) In areas served by on-site sewage disposal (septic) systems, the permittee should coordinate with the state or local health official, as appropriate, to confirm that any infiltration measures are appropriately sized, located and constructed in a manner consistent with the Connecticut Department of Public Health's Technical Standards for Subsurface Sewage Disposal Systems, Section 19-13-B100A of the Regulations of Connecticut State Agencies and/or DEEP requirements for on-site sewage disposal systems,

5.8.1 BMP Description

The Town currently coordinates with the municipal Health Department, as appropriate, to address areas served by on-site sewage disposal (septic) systems during the permit review process, and will continue to do so.

The goal of this coordination is to confirm that any infiltration measures are appropriately sized, located and constructed in a manner consistent with the CT Department of Public Health's Technical Standards for the Subsurface Sewage Disposal Systems, Section 19-13-B100A of the Regulations of Connecticut State Agencies and/or CTDEEP requirements for on-site sewage disposal systems.

5.8.2 Implementation

Measurable Goal: The Town Public Works Department shall coordinate with the local Health Department regarding coordination of the MS4 Plan requirements, to ensure that plans involving infiltration on lots served by subsurface sewage disposal system are reviewed in accordance with the permit.

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BMP 5.8 Coordination with Local Health Department Implementation Schedule

Permit Timeline	Activity
Year 1	Continue actively coordinating with local Health Department on MS4 Plan requirements.
Year 2	Continue actively coordinating with local Health Department on MS4 Plan requirements.
Year 3	Continue actively coordinating with local Health Department on MS4 Plan requirements.
Year 4	Continue actively coordinating with local Health Department on MS4 Plan requirements.

**BMP 5.8 Coordination with Local Health Department
Implementation Schedule**

Permit Timeline	Activity
Year 5	Continue actively coordinating with local Health Department on MS4 Plan requirements.
Year 5	Implementation complete.


Section 6

Pollution Prevention/Good Housekeeping

6.0 Regulatory Goals

The goal and requirement of this minimum control measure is the implementation of an operations and maintenance program for permittee-owned or -operated MS4s that has a goal of preventing or reducing pollutant runoff and protecting water quality from all permittee-owned or -operated MS4s.

The following targeted measures are required per Section (6)(a)(6)(H) of the permit:

P Phosphorus	<p>On Permittee-owned or -operated lands, implement a turf management practices and procedures policy which includes, but is not limited to, procedures for proper fertilizer application and the planting of native plant materials to lessen the amount of turf area requiring mowing and the application of chemicals. Each Annual Report shall discuss the actions taken to implement this policy with an estimate of fertilizer and turf reduction.</p>
N Nitrogen	
 Bacteria	<p>On Permittee-owned or -operated lands with a high potential to contribute bacteria (such as dog parks, parks with open water, sites with failing septic systems), the permittee shall develop, fund, implement, and prioritize a retrofit or source management program to correct the problem(s) within a specific timeframe. Each Annual Report shall identify problem areas for which a retrofit or source management program were developed, the location of the closest outfall monitored in accordance with Section 6(i) of this permit, the cost of such retrofit or program, and the anticipated pollutant reduction. On Permittee-owned or -operated lands, prohibit the feeding of geese or waterfowl and implement a program to manage geese and waterfowl populations. Each Annual Report shall discuss the actions taken to implement this program.</p>
Hg Mercury	<p>No additional targeted measures required.</p>

6.1 Develop/Implement Formal Employee Training Program

6.1.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(6)(A)	<p>The existing 2004 MS4 permittees shall continue a formal employee training program to increase awareness of water quality related issues in management of its MS4. New MS4 permittees shall develop this program within two (2) years of the effective date of this general permit. In addition to providing key staff with topical training</p>
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regarding standard operating procedures and other activities necessary to comply with the provisions of this permit, the training program shall include establishing an awareness of the general goals and objectives of the Plan; identification and reporting of illicit discharges and improper disposal; and spill response protocols and respective responsibilities of involved personnel.

6.1.1 BMP Description

Stormwater quality training of Town employees is through formal on-the-job instruction and training. Additionally, training is also provided as required by the General Permit for the Discharge of Stormwater Associated with Industrial Activity.

The primary focus of the training is the cross-training of existing employees within the divisions that make up the DPW, aimed at ensuring a broader understanding of the roles of each member of the staff assigned specific stormwater management responsibilities, and how those activities are integrated to minimize the Town's impact on the environment and to meet the obligations of the stormwater general permit.

Following the effective date of this permit, the training program shall include establishing an awareness of the general goals and objectives of the MS4 plan; identification and reporting of illicit discharges and improper disposal; and spill response protocols and respective responsibilities of involved personnel. The training will be combined with the training for the Industrial Permit.

6.1.2 Implementation

Measurable Goal: Continue providing on-the-job instruction and training to new and existing municipal employees related to stormwater management.

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BMP 6.1: Develop/Implement Formal Employee Training Program Implementation Schedule

Permit Timeline	Activity
Year 1	Include MS4 information in annual Industrial Permit Training program.
Year 2	Include MS4 information in annual Industrial Permit Training program.
Year 3	Include MS4 information in annual Industrial Permit Training program.
Year 4	Include MS4 information in annual Industrial Permit Training program.
Year 5	Include MS4 information in annual Industrial Permit Training program.

BMP 6.1: Develop/Implement Formal Employee Training Program Implementation Schedule

Year 5	Implementation complete.
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6.2 Implement MS4 Property and Operations Maintenance

6.2.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(6)(C)(iv) Buildings and facilities (schools under the jurisdiction of the permittee, town offices, police and fire stations, pools, parking garages and other permittee-owned or operated buildings or utilities)

Evaluate the use, storage, and disposal of both petroleum and non-petroleum products; ensure, through employee training, that those responsible for handling these products know proper procedures; ensure that Spill Prevention Plans are in place, if applicable, and coordinate with the fire department as necessary; develop management procedures for dumpsters and other waste management equipment; sweep parking lots and keep areas surrounding the facilities clean to minimize runoff of pollutants; and ensure that all interior building floor drains are not connected to the MS4. This permit does not authorize such discharges; wastewaters from interior floor drains must be appropriately permitted.

6.2.1 BMP Description

Properties, parks, and other facilities that are owned, operated, or otherwise the legal responsibility of the Town shall be maintained to minimize the discharge of pollutants to its MS4.

The Town will evaluate the use, storage, and disposal of both petroleum and non-petroleum products, and ensure that employees responsible for handling these products know proper procedures to minimize impacts of stormwater pollution.

Where applicable, the Town will ensure that Spill Prevention Plans are in place, and will coordinate with the Town fire department as necessary.

To meet the requirement of the MS4 permit, the Town will also:

- ▶ evaluate drainage at the vehicle wash areas of public facilities to assess and mitigate the facilities' impacts on water quality;
- ▶ develop management procedures for dumpsters and other waste management equipment;
- ▶ sweep parking lots and keep areas surrounding the facilities clean to minimize runoff of pollutants; and

- ▶ ensure that all interior building floor drains are not connected to the MS4.

6.2.2 Implementation

Measurable Goal: Evaluate the use, storage, and disposal of petroleum and non-petroleum products at municipal facilities, and shall update on-the-job training procedures to ensure that employees responsible for handling these products know the proper procedures for doing so. Develop and implement (i) Spill Prevention Plans as appropriate; (ii) management procedures for waste management equipment, including dumpsters; and (ii) plans to sweep parking lots and keep facilities and their surrounding areas clean. Evaluate impacts of vehicle wash areas at public facilities, and implement best management practices to mitigate their impacts on water quality. Ensure that all interior building floor drains in Town-owned facilities are not connected to the MS4. These items will be handled as part of the Town's Industrial Stormwater Permit for its facilities.

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BMP 6.2: Implement MS4 Property and Operations Maintenance Implementation Schedule

Permit Timeline	Activity
Year 1	Ensure the petroleum and non-petroleum products at its facilities are properly handled via employee education and training. Develop and implement (i) Spill Prevention Plans at facilities as appropriate, (ii) management procedures for waste management equipment, and (iii) plans to sweep parking lots and keep facilities and their surrounding areas clean. Evaluate impacts of vehicle ash areas at public facilities, and develop BMPs to mitigate their impacts on water quality.
Year 2	Continue to ensure the petroleum and non-petroleum products at its facilities are properly handled via employee education and training. Continue to implement (i) Spill Prevention Plans at facilities as appropriate, (ii) management procedures for waste management equipment, and (iii) plans to sweep parking lots and keep facilities and their surrounding areas clean. Continue to implement BMPs to mitigate impacts of vehicle ash areas on water quality.
Year 3	Continue to ensure the petroleum and non-petroleum products at its facilities are properly handled via employee education and training. Continue to implement (i) Spill Prevention Plans at facilities as appropriate, (ii) management procedures for waste management equipment, and (iii) plans to sweep parking lots and keep facilities and their surrounding areas clean. Continue to implement BMPs to mitigate impacts of vehicle ash areas on water quality.
Year 4	Continue to ensure the petroleum and non-petroleum products at its

BMP 6.2: Implement MS4 Property and Operations Maintenance Implementation Schedule

facilities are properly handled via employee education and training. Continue to implement (i) Spill Prevention Plans at facilities as appropriate, (ii) management procedures for waste management equipment, and (iii) plans to sweep parking lots and keep facilities and their surrounding areas clean. Continue to implement BMPs to mitigate impacts of vehicle ash areas on water quality.

Year 5	Continue to ensure the petroleum and non-petroleum products at its facilities are properly handled via employee education and training. Continue to implement (i) Spill Prevention Plans at facilities as appropriate, (ii) management procedures for waste management equipment, and (iii) plans to sweep parking lots and keep facilities and their surrounding areas clean. Continue to implement BMPs to mitigate impacts of vehicle ash areas on water quality.
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Year 5	Implementation complete.
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6.3 Implement Coordination with Interconnected MS4s

6.3.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(6)(F) Interconnected MS4s

As part of interagency agreements established pursuant to Section 6(c)(3) of this permit, the Permittee shall coordinate with operators of interconnected MS4s (such as neighboring municipalities, institutions and DOT) regarding the contribution of potential pollutants from the storm sewer systems, contributing land use areas and stormwater control measures in the respective MS4s. This same coordination shall be conducted regarding operation and maintenance procedures utilized in the respective systems.

6.3.1 BMP Description

The Town of Darien will address municipal operations that may impact neighboring MS4s as part of BMP Measure 4.88, Interjurisdictional Agreements.

6.3.2 Implementation

Measurable Goal: Coordinate with operators of interconnected MS4s (such as neighboring municipalities, institutions, and the CT Department of Transportation) regarding (i) the contribution of potential pollutants from the storm sewer systems, (ii) contributing land use areas, (iii) stormwater control measures in the respective MS4s, and (iv) operation and maintenance procedures in the respective systems.

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BMP 6.3: Implement Coordination with Interconnected MS4s Implementation Schedule

Permit Timeline	Activity
Year 1	Coordinate municipal operations with adjoining MS4s as part of BMP Measure 4.88, Interjurisdictional Agreements.
Year 2	Coordinate municipal operations with adjoining MS4s as part of BMP Measure 4.88, Interjurisdictional Agreements.
Year 3	Coordinate municipal operations with adjoining MS4s as part of BMP Measure 4.88, Interjurisdictional Agreements.
Year 4	Coordinate municipal operations with adjoining MS4s as part of BMP Measure 4.88, Interjurisdictional Agreements.
Year 5	Coordinate municipal operations with adjoining MS4s as part of BMP Measure 4.88, Interjurisdictional Agreements.
Year 5	Implementation complete.

6.4

6.5 Develop/Implement Program to Control Other Sources of Pollutants to MS4

6.5.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(6)(G) Sources Contributing Pollutants to the MS4

The permittee shall develop and implement a program to control the contribution of pollutants to its MS4 from commercial, industrial, municipal, institutional or other facilities, not otherwise authorized by permit issued pursuant to Sections 22a-430 or 22a-430b of the Connecticut General Statutes.

6.5.1 BMP Description

Under this BMP, the Town will implement a policy to identify and control pollutants from commercial, industrial, municipal, institutional or other facilities not otherwise authorized under a stormwater general permit. The Town will rely upon CTDEEP registration lists for facilities as well as the results of its stormwater monitoring.

6.5.2 Implementation

Measurable Goal: Annually review the list of stormwater general permit registrants, and identify non-permitted locations which may be significant contributors based upon the screening and monitoring results.

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BMP 6.4: Develop/Implement Program to Control Other Sources of Pollutants to MS4

Implementation Schedule

Permit Timeline	Activity
Year 1	Review stormwater general permit registrant list and identify potential contributing facilities not on the list. Compare locations of potential contributors to screening and monitoring results to determine if further investigation is warranted.
Year 2	Review stormwater general permit registrant list and identify potential contributing facilities not on the list. Compare locations of potential contributors to screening and monitoring results to determine if further investigation is warranted.
Year 3	Review stormwater general permit registrant list and identify potential contributing facilities not on the list. Compare locations of potential contributors to screening and monitoring results to determine if further investigation is warranted.
Year 4	Review stormwater general permit registrant list and identify potential contributing facilities not on the list. Compare locations of potential contributors to screening and monitoring results to determine if further investigation is warranted.
Year 5	Review stormwater general permit registrant list and identify potential contributing facilities not on the list. Compare locations of potential contributors to screening and monitoring results to determine if further investigation is warranted.
Year 5	Implementation complete.

6.6 Evaluate Additional Measures for Discharges to Impaired Waters

6.6.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(6)(H)	Additional measures for discharges to impaired waters (with or without a TMDL)
(i)	For waters for which Nitrogen or Phosphorus is a Stormwater

Pollutant of Concern: On Permittee-owned or -operated lands, implement a turf management practices and procedures policy which includes, but is not limited to, procedures for proper fertilizer application and the planting of native plant materials to lessen the amount of turf area requiring mowing and the application of chemicals. Each Annual Report shall discuss the actions taken to implement this policy with an estimate of fertilizer and turf reduction.

- (ii) For waters for which Bacteria is a Stormwater Pollutant of Concern: On Permittee-owned or -operated lands with a high potential to contribute bacteria (such as dog parks, parks with open water, sites with failing septic systems), the permittee shall develop, fund, implement, and prioritize a retrofit or source management program to correct the problem(s) within a specific timeframe. Each Annual Report shall identify problem areas for which a retrofit or source management program were developed, the location of the closest outfall monitored in accordance with Section 6(i), the cost of such retrofit or program, and the anticipated pollutant reduction. On Permittee-owned or -operated lands, prohibit the feeding of geese or waterfowl and implement a program to manage geese and waterfowl populations. Each Annual Report shall discuss the actions taken to implement this program.

6.6.1 BMP Description

This BMP has been subdivided into more specific components as described below:

For waters for which **Nitrogen** or **Phosphorus** is a Stormwater Pollutant of Concern:

On Town-owned or -operated lands, Darien will implement a turf management practices and procedures policy which includes, but is not limited to, procedures for proper fertilizer application and the planting of native plant materials to lessen the amount of turf area requiring mowing and the application of chemicals. Each Annual Report will discuss the actions taken to implement this policy with an estimate of fertilizer and turf reduction. Please refer to BMP 6.12: Parks and Open Space.

6.7 Track Projects that Disconnect DCIA

6.7.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(6)(B)(ii) The goal of the retrofit program is to “disconnect” existing Directly Connected Impervious Areas (DCIA). An area of DCIA is considered disconnected when the appropriate portion of the Water Quality Volume has been retained in accordance with the requirements of

Section 6(a)(5)(B)(i) or (ii) of this general permit. This may be accomplished through retrofits or redevelopment projects (public or private) that utilize Low Impact Development (LID) and runoff reduction measures or any other means by which stormwater is infiltrated into the ground or reused for other purposes without a surface or storm sewer discharge. A redevelopment project, as that term is used here and in Section 6(a)(5)(B)(i) and (ii) of this permit, is one that modifies an existing developed site for the purpose of enhancing, expanding or otherwise modifying its function or purpose. A retrofit project is one that modifies an existing developed site for the primary purpose of disconnecting DCIA. The DCIA calculation performed pursuant to Section 6(a)(5)(C) of this permit shall serve as the baseline for the retrofit program required in this section:

a. DCIA Disconnection Tracking

Beginning on the effective date of this general permit, the permittee shall track on an annual basis the total acreage of DCIA that is disconnected as a result of redevelopment or retrofit projects within the MS4. Tracking the disconnection of DCIA means documenting within a given redevelopment or retrofit project the amount of existing DCIA that is modified such that it is disconnected. This tracking may include disconnections of DCIA from redevelopment or retrofit projects implemented as early as five (5) years prior to the effective date of this permit. Any redevelopment or retrofit of an existing developed site, whether public (municipal, state or federal) or private (residential, commercial or industrial) shall be included in this tracking.

Tracking the disconnection of DCIA does not apply for sites that were previously undeveloped as there were no existing impervious surfaces on those sites. The total amount of DCIA that has been disconnected during a given year shall be reported in that year's Annual Report.

b. Retrofit Planning

On or before the end of third year after the effective date of this general permit, the permittee shall develop a plan to implement retrofit projects to meet the goals of this section. The permittee shall identify and prioritize sites that may be suitable for retrofit. Considerations for prioritizing retrofit projects may include outfall catchment areas that discharge to impaired waters, areas within the Urbanized Area of the MS4 or catchment areas with greater than eleven percent (11%) DCIA. The permittee shall select from the list of prioritized projects those that it will implement to meet the goals in the Retrofit section below. In the Annual Report for the third year of this general permit, the permittee shall report on its identification and prioritization process, the selection of the projects to be implemented, the rationale for the selection of those projects and the total DCIA to be disconnected upon implementation of the projects

c. Retrofit Schedule

By the end of this permit term, the permittee shall commence the implementation of the retrofit projects identified in subparagraph (b), above, with a goal of disconnecting one percent (1%) per year of the permittee's DCIA for the fourth and fifth years of this general permit, or a total of 2%, to the MEP. The two percent (2%) goal may be achieved by compiling the total disconnected DCIA tracked pursuant to subparagraph (a), above, or the retrofit projects designated in subparagraph (b), above, or a combination of the two. If the two percent (2%) goal will not be met, the permittee shall include in the Annual Report a discussion of what percentage of DCIA will actually be disconnected and why the remainder of the two percent (2%) goal could not be achieved based on the MEP standard outlined in Section 5(b) of this permit. The permittee shall also provide in the Annual Report for the fifth year of this permit for continuation of the retrofit program and continue such program with a goal to disconnect one percent (1%) of DCIA in each year thereafter

6.7.1 BMP Description

Darien will begin tracking DCIA coverage effective July 1, 2017. During the first year of the permit, the Town will also evaluate existing projects that have been completed within the last five years to evaluate if any of those projects can be credited toward DCIA reduction within the MS4.

Additionally, the Town will prepare a retrofit plan pursuant to this MS4 permit, with a goal of disconnecting existing Town-owned DCIA by 1% per year in years 4 and 5 of the permit. The Town will identify and prioritize sites that may be suitable for retrofit, and establish an implementation schedule to meet the goals of the plan.

6.7.2 Implementation

Measurable Goal: Track DCIA coverage annually, identify sites eligible for the 5-year "look back" credit, and develop a written Retrofit program by July 1, 2020, with a goal of reducing overall DCIA by 2% by July 1, 2022.

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BMP 6.6: DCIA Retrofit Program Implementation Schedule

Permit Timeline	Activity
Year 1	Track the disconnected DCIA acreage within Darien, identifying DCIA credit eligible sites constructed within the preceding 5 years.
Year 2	Track the disconnected DCIA acreage. Draft retrofit plan/program with a goal of reducing DCIA in the Town by 2% overall by July 1, 2022.
Year 3	Complete development of written Retrofit Program by July 1, 2020. Implement Retrofit Program. Continue to track the disconnected DCIA acreage within the MS4.
Year 4	Implement Retrofit Program. Track the disconnected DCIA acreage. Attempt to meet DCIA reduction target of 1%.
Year 5	Attempt to meet DCIA reduction target of 2%, inclusive of Year 4 and Year 5 projects. Continue to track the disconnected DCIA acreage.
Year 5	Implementation complete.

6.8 Develop/Implement Infrastructure Repair/Rehab Program

6.8.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

- 6(a)(6)(B)(i) The permittee shall repair and rehabilitate its MS4 infrastructure in a timely manner to reduce or eliminate the discharge of pollutants from its MS4 to receiving waters. Priority for repair and rehabilitation shall be based on the following:
- a. For existing 2004 MS4 permittees, the permittee shall utilize the information developed pursuant to Section 6(a)(6)(A)(v) of the 2004 MS4 permit to fund and implement a program for repairing, retrofitting or upgrading the conveyances, structures and outfalls of the MS4. This program shall be updated based on new information on outfalls discharging pollutants, impaired waters, inspection observations or observations made during outfall mapping pursuant to Section 6(a)(3)(C) of this permit.

6.8.1 BMP Description

The Town of Darien will review and update its program to identify MS4 structures to repair, rehabilitate, or upgrade to reduce or eliminate the discharge of pollutants into water bodies. This program will be reviewed based observations made during outfall mapping under Section 3: Illicit Discharge Detection and Elimination Program of this plan.

6.8.2 Implementation

Measurable Goal: Review, update (as needed), and continue to implement an internal policy on infrastructure repair, rehabilitation and retrofits for MS4 structures to eliminate the discharge of pollutants into water bodies.

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BMP 6.7: Develop/Implement Infrastructure Repair/Rehab Program Implementation Schedule

Permit Timeline	Activity
Year 1	Prepare draft internal policy on MS4 infrastructure repair, rehabilitation, and retrofits.
Year 2	Implement policy on MS4 infrastructure repair, rehabilitation, and retrofits.
Year 3	Continue policy implementation.
Year 4	Continue policy implementation
Year 5	Continue policy implementation
Year 5	Implementation complete.

6.9 Develop/Implement Plan to Identify/Prioritize Retrofit Projects

6.9.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

- 6(a)(6)(B)(i) The permittee shall repair and rehabilitate its MS4 infrastructure in a timely manner to reduce or eliminate the discharge of pollutants from its MS4 to receiving waters. Priority for repair and rehabilitation shall be based on the following:
- For existing 2004 MS4 permittees, the permittee shall utilize the information developed pursuant to Section 6(a)(6)(A)(v) of the 2004 MS4 permit to fund and implement a program for repairing, retrofitting or upgrading the conveyances, structures and outfalls of the MS4. This program shall be updated based on new information on outfalls discharging pollutants, impaired waters, inspection observations or observations made during outfall mapping pursuant to Section 6(a)(3)(C) of this permit.

6.9.1 BMP Description

The Town of Darien will review the sampling data collected during the 2004 permit term to identify stormwater infrastructure repairs that need to be made, and continue update the list as new repairs are warranted, existing infrastructure is repaired, inspections are conducted, and new information about discharges and/or impaired waters becomes available.

The Town will fund (subject to funding availability) and implement a Retrofit Program for repairing, retrofitting, or upgrading the conveyances, structures, and outfalls of the MS4.

6.9.2 Implementation

Measurable Goal: Identify, inventory, and prioritize repairs needed for MS4 infrastructure. Document which repairs have been made, and update the documentation based on inspections conducted by the MS4 and as new information about discharges and/or impaired waters becomes available.

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BMP 6.8: Develop/Implement Plan to Identify/Prioritize Retrofit Projects Implementation Schedule

Permit Timeline	Activity
Year 1	Identify required repairs based on data from previous permit and prepare inventory. Make repairs as funding becomes available.
Year 2	Update repair program as new data becomes available. Make repairs as funding becomes available.
Year 3	Update repair program as new data becomes available. Make repairs as funding becomes available.
Year 4	Update repair program as new data becomes available. Make repairs as funding becomes available.
Year 5	Update repair program as new data becomes available. Make repairs as funding becomes available.
Year 5	Implementation complete.

6.10 Develop/Implement Street Sweeping Program

6.10.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(6)(D)(i) Street Sweeping

a. Establish and implement procedures for sweeping permittee-owned

or - operated streets and parking lots. All streets and parking lots within the Urbanized Area of the MS4, and outside the Urbanized Area within the catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters, shall be inspected, swept and/or cleaned (as necessary) with a minimum frequency of once per year in the spring following the cessation of winter maintenance activities (i.e. sanding, deicing, etc.). The procedures shall also include more frequent inspections, cleaning and/or sweeping of targeted areas determined by the permittee to have increased pollutant potential based on the presence of active construction activity or other potential pollutant sources. The permittee shall identify such potential pollutant sources based upon surface inspections, catch basin cleaning or inspection results, land use, winter road deicing and/or sand application, impaired or TMDL waters or other relevant factors as determined by the permittee. If wet dust suppression is conducted, the use of water should be minimized such that a discharge of excess water to surface waters and/or the storm sewer system does not occur.

For streets and parking lots outside the Urbanized Area and outside the catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters, including any rural uncurbed streets and parking lots with no catch basins, the permittee shall either meet the minimum frequencies above, or develop and implement an inspection, documentation and targeted sweeping and/or cleaning plan within one (1) year of the effective date of the general permit, and submit such plan with its year one Annual Report. For new and redeveloped municipal parking lots, evaluate options from reducing stormwater runoff to surface waters and/or the storm sewer system by the installing pervious pavements and/or other measures to promote sheet flow of stormwater.

Ensure the proper disposal of street sweepings in accordance with Department policies, guidance and regulations. Sweepings shall not be discharged back into the storm drain system and/or surface waters.

In its Annual Report, the permittee shall document results of its sweeping program including, at a minimum: a summary of inspection results, curb miles swept, dates of cleaning, volume or mass of material collected, and method(s) of reuse or disposal. The permittee shall also include documentation of any alternate sweeping plan for rural uncurbed streets and any runoff reduction measures implemented

6.10.1 Street Sweeping

The Town of Darien will evaluate its existing street sweeping plan for conformance to the updated MS4 permit requirement, and update the program as needed.

The Town will establish an updated schedule for street sweeping that ensures:

- ▶ Inspect, sweep, and/or clean (as necessary) at least once a year in the spring all streets and parking lots within the Urbanized Area of the MS4, and outside the Urbanized Area within the catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters
- ▶ More frequent inspection, cleaning, and/or sweeping of targeted areas that the Town determines to have increased pollutant potential based on the presence of active construction activity or other potential pollutant sources.
- ▶ Develop and implement an inspection, documentation and targeted sweeping and/or cleaning plan within one year of the effective date of the permit for streets and parking lots outside the Urbanized Area and outside the catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters, including any rural uncurbed streets and parking lots with no catch basins

The Town will develop and implement a procedure for identifying targeted areas based upon surface inspections, catch basin cleaning or inspection results, land use, winter road deicing and/or sand application, impaired or TMDL water or other relevant factors.

The Town will also ensure the proper disposal of street sweepings to ensure that sweepings shall not be discharged back into the storm drain system and/or surface waters.

6.10.2 Implementation

Measurable Goal: Assess and update the existing street sweeping program in the Town to ensure compliance with the updated MS4 permit. Develop and implement a procedure for identifying targeted areas for additional street sweeping; establish a schedule for street sweeping to ensure minimum frequency is met for areas inside and outside areas with DCIA greater than 11% and/or in the Urbanized Area; and document results of sweeping program, including inspection results, dates of sweeping, curb miles swept, volume/mass of material collected, and method(s) of reuse or disposal.

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BMP 6.9: Develop/Implement Street Sweeping Program

Implementation Schedule	
Permit Timeline	Activity
Year 1	Develop and implement a procedure for identifying targeted areas for additional street sweeping. Establish a schedule for street sweeping to ensure minimum frequency is met for areas inside and outside areas with DCIA greater than 11% and/or in the Urbanized Area. Document results of sweeping program.
Year 2	Continue to implement street sweeping program. Update the program as needed.
Year 3	Continue to implement street sweeping program. Update the program as needed.
Year 4	Continue to implement street sweeping program. Update the program as needed.
Year 5	Continue to implement street sweeping program. Update the program as needed.
Year 5	Implementation complete.

6.11 Develop/Implement Catch Basin Cleaning Program

6.11.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(6)(D)(ii) Catch Basin Cleaning

- a. Inspect all permittee-owned catch basins within the Urbanized Area of the MS4 and outside the Urbanized Area within the catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters at least once by the end of the third year following the effective date of this general permit. Catch basins outside the Urbanized Area and outside the catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters shall be inspected by the end of the fifth year following the effective date of this general permit.

Prioritize inspection and maintenance for permittee-owned catch basins located near impaired waters and construction activities (roadway construction, residential, commercial, or industrial development or redevelopment). Clean catch basins in such areas more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings.

Establish a schedule that the frequency of routine cleaning will ensure that no catch basin at any time will be more than fifty (50) percent full.

If a catch basin sump is more than fifty (50) percent full during two

consecutive routine inspections/cleaning events, the permittee shall document that finding, investigate the contributing drainage area for sources of excessive sediment loading, and to the maximum extent practicable, abate contributing sources. The permittee shall describe any actions taken in its Annual Report.

For the purposes of this subsection, an excessive sediment or debris loading is a catch basin sump more than fifty (50) percent full. A catch basin sump is more than 50 percent full if the contents within the sump exceed one half the distance between the bottom interior of the catch basin to the invert of the deepest outlet of the catch basin.

The permittee shall document in the Plan and in the first Annual Report its plan for optimizing catch basin cleaning, inspection plans, or its schedule for gathering information to develop the optimization plan. Documentation shall include metrics and other information used to reach the determination that the established plan for cleaning and maintenance is optimal for the MS4. The permittee shall keep a log of catch basins cleaned or inspected.

The permittee shall report in each Annual Report the total number of catch basins, number inspected, number cleaned, the total volume or mass of material removed from all catch basins and, if practicable, the volume or mass of material removed from each catch basin draining to water quality limited waters.

6.11.1 BMP Description

The Town shall continue conducting routine cleaning of all catch basins, and will track catch basin inspection observations as it already does on its catch basin inspection forms. Using this information, in addition to operational staff and citizen feedback, the Town shall optimize routine cleaning frequencies for prioritized infrastructure or catchment areas as follows to maintain acceptable sediment removal efficiencies:

- ▶ Inspect all Town-owned catch basins within the Urbanized Area of the MS4 and outside the Urbanized Area within the catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters at least once by July 1, 2020
- ▶ Inspect all other Town-owned catch basins by July 1, 2022

By July 1, 2018, the Town shall develop a plan that:

- ▶ prioritizes inspection and maintenance for Town-owned catch basins located near impaired waters and construction activities, and requires the Town to clean catch basins in such areas more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings;

- Establishes a schedule that the frequency of routine cleaning to ensure that no catch basin at any time will be more than fifty (50) percent full;

Note: when a catch basin sump is more than fifty percent full (as defined in the MS4 permit) during two consecutive routine inspections/cleaning events, the Town shall document that finding, investigate the contributing drainage area for sources of excessive sediment loading, and to the maximum extent practicable, abate contributing sources and describe any actions taken in its Annual Report

- Documents the Town's process for optimizing catch basin cleaning, inspection plans, and/or its schedule for gathering information to develop such an optimization plan; documentation shall include metrics and other information used to reach the determination that the established plan for cleaning and maintenance is optimal for the MS4. The permittee shall keep a log of catch basins cleaned or inspected.

6.11.2 Implementation

Measurable Goal: Continue conducting routine cleaning of all catch basins, and will track catch basin inspection observations. Develop a plan within the first year for catch basin inspection and maintenance. Update the MS4 Annual Report each year to include the total number of catch basins, the number inspected and/or cleaned, the total volume/mass of material removed from all catch basins, and if possible, the volume/mass of material removed from each catch basin draining to water quality-limited waters.

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BMP 6.10: Develop/Implement Catch Basin Cleaning Program Implementation Schedule

Permit Timeline	Activity
Year 1	Continue conducting routine cleaning of all catch basins. Track catch basin inspection observations. Develop and implement a plan for catch basin inspection and maintenance. Update the Annual Report with documentation of the Town's catch basin cleaning and maintenance process.
Year 2	Continue conducting routine cleaning of all catch basins. Track catch basin inspection observations. Continue implementing a plan for catch basin inspection and maintenance. Update the Annual Report with documentation of the Town's catch basin cleaning and maintenance process.
Year 3	Continue conducting routine cleaning of all catch basins. Track catch basin inspection observations. Continue implementing a plan for catch

BMP 6.10: Develop/Implement Catch Basin Cleaning Program Implementation Schedule

Permit Timeline	Activity
	basin inspection and maintenance. Update the Annual Report with documentation of the Town's catch basin cleaning and maintenance process.
Year 4	Continue conducting routine cleaning of all catch basins. Track catch basin inspection observations. Continue implementing a plan for catch basin inspection and maintenance. Update the Annual Report with documentation of the Town's catch basin cleaning and maintenance process.
Year 5	Continue conducting routine cleaning of all catch basins. Track catch basin inspection observations. Continue implementing a plan for catch basin inspection and maintenance. Update the Annual Report with documentation of the Town's catch basin cleaning and maintenance process.
Year 5	Implementation complete.

6.12 Develop/Implement Snow Management Practices

6.12.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(6)(E)(i) Deicing Material Management

Develop and implement standard operating practices for the use, handling, storage, application, and disposal of deicing products such as salt and sand to minimize exposure to stormwater; consider means to minimize the use and optimize the application of chloride-based or other salts or deicing product (while maintaining public safety) and consider opportunities for use of alternative materials; for any exterior containers of liquid deicing materials installed after the effective date of this permit, provide secondary containment of at least 110% of the largest container or 10% of the total volume of all containers, whichever is larger, without overflow from the containment area.

6(a)(6)(E)(ii) Snow and Ice Control Practices

The permittee shall implement and refine its standard operating practices regarding its snow and ice control to minimize the discharge of sand, anti-icing or de-icing chemicals and other pollutants (while maintaining public safety). The permittee shall establish goals for the optimization of sand and/or chemical application rates through the use, where practicable, of automated application equipment (e.g. zero velocity spreaders), anti-icing and pre-wetting techniques, implementation of pavement management systems, and alternate chemicals. The permittee shall maintain records of the application of

sand, anti-icing and/or de-icing chemicals to document the reduction of chemicals to meet established goals. The permittee shall ensure the proper training for deicing applications for municipal employees, institutional staff, or private contractors on lands and easements for which it is responsible for maintenance.

The permittee shall manage and dispose of snow accumulations in accordance with DEEP's Best Management Practices for Disposal of Snow Accumulations from Roadways and Parking Lots, revised 2/4/11 and as amended (see link at: www.ct.gov/deep/stormwater). In its Annual Report, the permittee shall document results of its snow removal program including, at a minimum: the type of staff training conducted on application methods and equipment, type(s) of deicing materials used; lane-miles treated; total amount of each deicing material used; type(s) of deicing equipment used; any changes in deicing practices (and the reasons for the change); and snow disposal methods.

6.12.1 BMP Description

The Town will develop and implement a written snow and ice management plan, which will contain:

- ▶ Updated standard operating practices for the use, handling, storage, application, and disposal of deicing products to minimize exposure to stormwater.
- ▶ The Town shall consider means to minimize the use and optimize the application of chloride-based or other salts or deicing product (while maintaining public safety) and consider opportunities for use of alternative materials.
- ▶ Updated standard operating practices regarding snow and ice control to minimize the discharge of anti-icing or de-icing chemicals and other pollutants (while maintaining public safety).
- ▶ A list of goals for the optimization of application rates through the use, where practicable, of automated application equipment (e.g. zero velocity spreaders), anti-icing and pre-wetting techniques, implementation of pavement management systems, and alternate chemicals.
- ▶ Process for maintain records of application of anti-icing and/or de-icing chemicals to document the reduction of chemicals to meet established goals.
- ▶ Documentation of the implementation of proper training for deicing applications for municipal employees, institutional staff, or private contractors on lands and easements for which it is responsible for maintenance.

The plan will be written to ensure that the management and disposing of snow accumulations will continue to be conducted in accordance with CTDEEP's Best Management Practices for Disposal of Snow Accumulations from Roadways and Parking Lots, revised 2/4/11 and as amended.

The Town shall provide secondary containment of at least 110% of the largest container or 10% of the total volume of all containers, whichever is larger, without overflow from the containment area, for any exterior containers of liquid deicing materials installed after July 1, 2017.

The Town shall update its Annual Report to document results of its snow removal program including, at a minimum: the type of staff training conducted on application methods and equipment, type(s) of deicing materials used; lane-miles treated; total amount of each deicing material used; type(s) of deicing equipment used; any changes in deicing practices (and the reasons for the change); and snow disposal methods.

6.12.2 Implementation

Measurable Goal: Develop and implement a written snow and ice management plan, including protocols for staff training and record maintenance and updated standard operating practices. Provide appropriate secondary containment for any exterior containers of liquid deicing materials. The Town shall also document in its Annual Report the results of its snow removal program, including details on methods, materials used, lane-miles treated, staff training, program changes, and snow disposal methods.

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2 Renshaw Road
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203-656-7346

BMP 6.11: Develop/Implement Snow Management Practices Implementation Schedule

Permit Timeline	Activity
Year 1	Develop and implement a written snow and ice management plan, including protocols for staff training and record maintenance and updated standard operating practices. Provide appropriate secondary containment for any exterior containers of liquid deicing materials. Update the Annual Report with required information on the snow and ice program.
Year 2	Implement a written snow and ice management plan, including protocols for staff training and record maintenance and updated standard operating practices. Provide appropriate secondary containment for any exterior containers of liquid deicing materials. Update the Annual Report with required information on the snow and ice program.
Year 3	Implement a written snow and ice management plan, including protocols for staff training and record maintenance and updated standard operating practices. Provide appropriate secondary containment for any exterior containers of liquid deicing materials. Update the Annual Report with

BMP 6.11: Develop/Implement Snow Management Practices Implementation Schedule

Permit Timeline	Activity
	required information on the snow and ice program.
Year 4	Implement a written snow and ice management plan, including protocols for staff training and record maintenance and updated standard operating practices. Provide appropriate secondary containment for any exterior containers of liquid dicing materials. Update the Annual Report with required information on the snow and ice program.
Year 5	Implement a written snow and ice management plan, including protocols for staff training and record maintenance and updated standard operating practices. Provide appropriate secondary containment for any exterior containers of liquid dicing materials. Update the Annual Report with required information on the snow and ice program.
Year 5	Implementation complete.

6.13 Parks and Open Space

6.13.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(6)(C)(i) Parks and Open Space

The permittee shall optimize the application of fertilizers by municipal employees, institutional staff, or private contractors on lands and easements for which it is responsible for maintenance. Optimization practices considered may include conducting soil testing and analysis to determine soil phosphorus levels, the reduction or elimination of fertilizers, reduction of usage by adhering to the manufacturers' instructions, and use of alternative fertilizers forms (i.e. products with reduced, slow-releasing, or insoluble phosphorus compositions). Additional optimization practices to be considered include: proper storage and application practices (i.e. avoid impervious surfaces), application schedule (i.e. appropriate season or month) and timing (i.e. coordinated with climatic conditions to minimize runoff potential); develop and implement standard operating practices for the handling, storage, application, and disposal of pesticides and herbicides in compliance with applicable state and federal laws; evaluate lawn maintenance and landscaping activities to promote water quality (protective practices include reduced mowing frequencies, proper disposal of lawn clippings, and use of alternative landscaping materials like drought resistant and native plantings); and establish procedures for management of trash containers at parks (scheduled cleanings; sufficient number). The permittee shall establish practices for the proper disposal of grass clippings and leaves at permittee-owned lands. Clippings shall be composted or otherwise appropriately disposed. Clippings should not enter the MS4 system or waters of the state.

6.13.1 BMP Description

Infrastructure, properties, parks, and other facilities that are owned, operated, or otherwise the legal responsibility of the Town shall be maintained to minimize the discharge of pollutants to its MS4.

In the Town of Darien's parks, the Town shall optimize the application of fertilizers by municipal employees, institutional staff, or private contractors on lands and easements for which is responsible for maintenance. The application will follow suggested optimization measures specified within the MS4 permit to the maximum extent practicable.

The Town will establish practices for the proper disposal of grass clippings and leaves at Town-owned lands, ensuring that clippings will not enter the MS4 system or waters of the state.

6.13.2 Implementation

Measurable Goal: Continue to follow existing optimization procedures for the application of fertilizers and proper disposal of grass clippings and leaves for Town-owned and -operated facilities, and document method of storage and quantities of fertilizer used.

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BMP 6.12: Parks and Open Space Implementation Schedule

Permit Timeline	Activity
Year 1	Continue implementing procedures for fertilizer application and disposal of grass clippings and leaves for lands that are the legal responsibility of the Town.
Year 2	Continue implementing procedures for fertilizer application and disposal of grass clippings and leaves for lands that are the legal responsibility of the Town.
Year 3	Continue implementing procedures for fertilizer application and disposal of grass clippings and leaves for lands that are the legal responsibility of the Town.
Year 4	Continue implementing procedures for fertilizer application and disposal of grass clippings and leaves for lands that are the legal responsibility of the Town.
Year 5	Continue implementing procedures for fertilizer application and disposal of grass clippings and leaves for lands that are the legal responsibility of the Town.
Year 5	Implementation complete.

6.14 Pet Waste Management

6.14.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(6)(C)(ii) Pet waste management

The permittee shall identify locations within its community/institution where inappropriate pet waste management practices are immediately apparent and pose a threat to receiving water quality due to proximity and potential for direct conveyance of waste to its storm system and waters. In such areas, the permittee shall implement targeted management efforts such as public education and enforcement (e.g. increased patrol for violators). In permittee-owned recreational areas where dog walking is allowed, the permittee shall install educational signage, pet waste baggies, and disposal receptacles (or require carry-out). The permittee shall document its efforts in its annual reports. The permittee should consider including information regarding the scope and extent of its education, compliance, and enforcement efforts (including the number of violations pursued and fines levied or other enforcement taken).

6.14.1 BMP Description

Infrastructure, properties, parks, and other facilities that are owned, operated, or otherwise the legal responsibility of the Town shall be maintained to minimize the discharge of pollutants to its MS4.

Darien shall identify locations within its community/institution where inappropriate pet waste management practices are immediately apparent and pose a threat to receiving water quality due to proximity and potential for direct conveyance of waste to its storm system and waters. For such areas, the Town will develop, implement, and enforce targeted management efforts.

For Town-owned recreational areas where dog walking is allowed, the Town shall install educational signage, pet waste baggies, and disposal receptacles (or require carry-out).

6.14.2 Implementation

Measurable Goal: Identify locations within the community where pet waste threatens receiving water quality, and shall implement and enforce targeted management efforts to mitigate the impacts of pet waste. Install educational signage, pet waste baggies, and/or disposal receptacles at recreational locations within the Town where dog walking is allowed.

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BMP 6.13: Pet Waste Management Implementation Schedule

Permit Timeline	Activity
Year 1	Identify locations with the town where pet waste threatens receiving water quality.
Year 2	Continue to implement and enforce targeted management efforts. Continue to install educational signage, pet waste baggies, and/or disposal receptacles in Town-owned recreational areas where dog walking is allowed, as needed. Update Annual Report to include pet waste management process scope and extent.
Year 3	Continue to implement and enforce targeted management efforts. Continue to install educational signage, pet waste baggies, and/or disposal receptacles in Town-owned recreational areas where dog walking is allowed, as needed. Update Annual Report to include pet waste management process scope and extent.
Year 4	Continue to implement and enforce targeted management efforts. Continue to install educational signage, pet waste baggies, and/or disposal receptacles in Town-owned recreational areas where dog walking is allowed, as needed. Update Annual Report to include pet waste management process scope and extent.
Year 5	Continue to implement and enforce targeted management efforts. Continue to install educational signage, pet waste baggies, and/or disposal receptacles in Town-owned recreational areas where dog walking is allowed, as needed. Update Annual Report to include pet waste management process scope and extent.
Year 5	Implementation complete.

6.15 Waterfowl Management

6.15.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(6)(C)(iii) Waterfowl management

Identify lands where waterfowl congregate and feeding by the public or institutional staff/residents occurs. To raise awareness regarding the water quality impacts, the permittee shall install signage or use other targeted techniques to educate the public about the detrimental impacts of feeding waterfowl (including the resulting feces deposition) and discourage such feeding practices. The permittee shall also

implement practices that discourage the undesirable congregation of waterfowl in these areas, or otherwise isolate the direct drainage from these areas away from its storm system and waters).

6.15.1 BMP Description

Infrastructure, properties, parks, and other facilities that are owned, operated, or otherwise the legal responsibility of the Town shall be maintained to minimize the discharge of pollutants to its MS4.

Darien shall identify lands where waterfowl congregate and feeding by the public or institutional staff/residents occurs, and in those areas, use targeted techniques to educate the public about the detrimental impacts of feeding waterfowl.

The Town will also implement practices that discourage the undesirable congregation of waterfowl in these areas, or otherwise isolate the direct drainage from these areas away from its storm system and waters. Examples include erecting signage warning the public not to feed waterfowl, or planting grasses and shrubs that make certain areas less attractive for waterfowl.

6.15.2 Implementation

Measurable Goal: Develop and implement a plan to discourage the feeding of waterfowl through (i) identification of lands where waterfowl congregate, (ii) targeted techniques to educate the public about their detrimental impacts on stormwater quality, and (iii) use targeted techniques discourage the waterfowls' congregation.

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BMP 6.14: Waterfowl Management Implementation Schedule

Permit Timeline	Activity
Year 1	Identify waterfowl congregation areas.
Year 2	Identify targeted techniques to discourage the feeding and congregation of waterfowl. Disseminate educational materials (through brochures, flyers, information on the Town website, and/or educational signage) about the detrimental impacts of waterfowl on stormwater quality.
Year 3	Implement targeted techniques to discourage the feeding and congregation of waterfowl. Continue to disseminate educational material about waterfowl and their impact on stormwater quality.
Year 4	Implement targeted techniques to discourage the feeding and congregation of waterfowl. Continue to disseminate educational material

**BMP 6.14: Waterfowl Management
Implementation Schedule**

about waterfowl and their impact on stormwater quality.

Year 5	Implement targeted techniques to discourage the feeding and congregation of waterfowl. Continue to disseminate educational material about waterfowl and their impact on stormwater quality.
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Year 5	Implementation complete.
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6.16 Mitigate Stormwater Quality Impacts of Town-Owned Vehicles and Equipment

6.16.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(6)(C)(v) Vehicles and Equipment

Establish procedures for the storage of permittee-owned or -operated vehicles; require vehicles with fluid leaks to be stored indoors or in contained areas until repaired; evaluate fueling areas owned by the permittee and used by permittee-owned or -operated vehicles and if possible, place fueling areas under cover in order to minimize exposure; establish procedures to ensure that vehicle wash waters are not discharged to the municipal storm sewer system or to surface waters. This permit does not authorize such discharges; wastewaters from interior floor drains must be appropriately permitted.

6.16.1 BMP Description

Infrastructure, properties, parks, and other facilities that are owned, operated, or otherwise the legal responsibility of the Town shall be maintained to minimize the discharge of pollutants to its MS4.

The Town shall:

- ▶ Establish procedures for the storage of Town-owned or -operated vehicles, including requiring vehicles with fluid leaks to be stored indoors or in contained areas until repaired;
- ▶ Confirm fueling areas owned by the Town and used by Town-owned or -operated vehicles and if possible, place fueling areas under cover in order to minimize exposure; and
- ▶ Confirm procedures to ensure that vehicle wash waters are not discharged to the municipal storm sewer system or to surface waters.

6.16.2 Implementation

Measurable Goal: Review and update (as needed) procedures for the storage and maintenance of Town-owned or operated vehicles and fueling areas, and procedures for proper maintenance and discharge of vehicle wash waters.

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BMP 6.15: Mitigate Stormwater Quality Impacts of Town-Owned Vehicles and Equipment Implementation Schedule

Permit Timeline	Activity
Year 1	Review existing operations and maintenance procedures for Town facilities, and update if the vehicle fueling/washing provisions have not been included.
Year 2	Implement procedures for the storage of Town-owned and -operated vehicles. Evaluate fueling areas owned by the Town and used by Town-owned or -operated vehicles. Establish and implement procedures to prevent vehicle wash waters from being discharged to MS4 waters or to surface waters.
Year 3	Implement procedures for the storage of Town-owned and -operated vehicles. Evaluate fueling areas owned by the Town and used by Town-owned or -operated vehicles. Establish and implement procedures to prevent vehicle wash waters from being discharged to MS4 waters or to surface waters.
Year 4	Implement procedures for the storage of Town-owned and -operated vehicles. Evaluate fueling areas owned by the Town and used by Town-owned or -operated vehicles. Establish and implement procedures to prevent vehicle wash waters from being discharged to MS4 waters or to surface waters.
Year 5	Implement procedures for the storage of Town-owned and -operated vehicles. Evaluate fueling areas owned by the Town and used by Town-owned or -operated vehicles. Establish and implement procedures to prevent vehicle wash waters from being discharged to MS4 waters or to surface waters.
Year 5	Implementation complete.

6.17 Leaf Management

6.17.0 Regulatory Requirement

The applicable regulatory requirement this BMP is intended to meet is as follows:

6(a)(6)(C)(vi) Leaf Management

The permittee shall establish and implement procedures to minimize or prevent the deposition of leaves in catch basins, streets, parking lots, driveways, sidewalks or other paved surfaces that discharge to the MS4. Such procedures shall also apply to leaves collected by the permittee.

6.17.1 BMP Description

Darien has conducted a Town-wide leaf collection program for many years. Leaves are picked up curbside by the Town every fall. The Town posts requirements online, and requires leaves to be in paper biodegradable bags.

The Town will continue its annual leaf pickup schedule to meet the 2017 MS4 permit requirements.

6.17.2 Implementation

Measurable Goal: Continue to implement Town-wide leaf collection program, collecting leaves curbside at least once each fall.

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BMP 6.16: Leaf Management Implementation Schedule

Permit Timeline	Activity
Year 1	Conduct Town-wide leaf collection program annually.
Year 2	Conduct Town-wide leaf collection program annually.
Year 3	Conduct Town-wide leaf collection program annually.
Year 4	Conduct Town-wide leaf collection program annually.
Year 5	Conduct Town-wide leaf collection program annually.
Year 5	Implementation complete.

Section 7

Monitoring Requirements

7.0 Introduction

The work under this section of the Plan will be detailed further in the Town's Written IDDE Plan to be developed under BMP 3.1. In general, the work involves monitoring related to outfall screening, inventory and mapping discharges to impaired waters, follow-up investigations where illicit discharges were identified, and annual monitoring of priority outfalls.

Work under this section, shall be under the responsibility of the Director of Public Works.

7.1 Impaired Waters Outfall Investigation

The Town of Darien will create an inventory of outfalls that discharge to impaired waters. The Town will then screen the outfalls for the stormwater pollutant of concern. If these outfalls were previously tested under the 2004 MS4 permit, the Town may use that data for the screening process.

7.2 Screening for Phosphorus and Nitrogen

Where phosphorus or nitrogen is listed as an impairment, the Town may sample whenever the outfall is discharging, provided the discharge occurs more than 48 hours after the previous rainfall event, and the discharge is not the result of ice or snow melt. Grab sample must be collected within first 6 hours of discharge. Each outfall discharging directly to waterbodies impaired for phosphorus and/or nitrogen must be screened once during the permit term.

7.2.0 Phosphorus

The Town may use a portable phosphorus meter to obtain a field reading during wet weather discharge. If the reading exceeds 0.3 mg/L, the outfall shall be identified for further investigation.

7.2.1 Nitrogen

The Town may use a portable nitrogen meter to obtain a field reading during wet weather discharge. If the reading exceeds 2.5 mg/L, the outfall shall be identified for further investigation.

7.3 Screening for Bacteria

Where bacteria is listed as an impairment, the Town may sample whenever the outfall is discharging, provided the discharge occurs more than 48 hours after the previous rainfall event, and the discharge is not the result of ice or snow melt. Grab sample must be collected within first 6 hours of discharge.

The sample shall be analyzed for:

- Class AA, A and B surface waters: E. coli and Total Coliform
- Class SA and SB surface waters: Fecal coliform and Enterococci

Additional investigation is required if any of the following apply:

- E. coli > 235 col/100 mL for swimming areas
- E. coli > 410 col/100 mL
- Total coliform > 500 col/100 mL
- Fecal coliform > 31 col/100 mL for Class SA waters
- Fecal coliform > 260 col/100 mL for Class SB waters
- Enterococci > 104 col/100 mL for swimming areas
- Enterococci > 500 col/100 mL

In some instances, follow up may not be required if it can be demonstrated that the elevated levels of bacteria result from wildlife or other natural sources, excluding pet waste and waterfowl.

7.4 Screening for Other Pollutants of Concern

Darien shall screen its outfalls identified in Section 6(a)(3)(C) that discharge to impaired waters, for which pollutants other than phosphorus, nitrogen or bacteria are listed as the pollutant of concern.

The Town shall take a sample at the outfall and in-stream immediately upstream or otherwise outside the influence of the outfall. The sample may be taken during any rain event that results in a discharge from the outfall provided it occurs 48 hours or more after the previous rainfall event and the event is not the result of snow or ice melt (the grab sample must be collected within first 6 hours of discharge). These samples shall be analyzed for turbidity. The Town may use a field turbidity meter for these analyses. If the outfall sample is more than 5 NTU greater than the in-stream sample, the outfall shall be identified for follow-up investigation.

Table 7-1
Outfall Screening Matrix

Pollutant	Rainfall Conditions	Method	Threshold for Follow-Up Investigation
Phosphorus	48 hours or more since last rainfall event, no snow or ice melt.	Field meter	>0.3 mg/L
Nitrogen	48 hours or more since last rainfall event, no snow or ice melt.	Field meter	>2.5 mg/L
Bacteria	48 hours or more since last rainfall event, no snow or ice melt.	Laboratory test	E. coli > 235 col/100 mL for swimming areas E. coli > 410 col/100 mL Total coliform > 500 col/100 mL Fecal coliform > 31 col/100 mL for Class SA waters Fecal coliform > 260 col/100 mL for Class SB waters Enterococci > 104 col/100 mL for swimming areas Enterococci > 500 col/100 mL

Other pollutants	48 hours or more since last rainfall event, no snow or ice melt.	Laboratory test or filed meters, turbidity meter	Depends on pollutant >5 NTU difference between outfall and in-stream sample
------------------	--	--	--

7.5 Outfall Monitoring

Once the screening is completed for 50% of the outfalls to impaired waters by the end of the third year of the permit, the Town will select the six largest contributors of any of the pollutants, and sample annually.

7.6 Follow-up Investigations

Where the analyses above indicate that an outfall may be contributing to an existing impairment, the Town will perform follow-up investigations as follows, and report on their progress in the Annual Report as identified below. Follow-up investigations as described in this section must begin no later than June 30, 2019.

7.6.0 Catchment Investigation

The Town will perform catchment investigation to evaluate potential contributing causes such as land use, industrial, commercial or residential activity, impervious coverage, natural contributions and other causes that could influence the pollutant load of the suspect outfall(s).

7.6.1 Control Measures

Implement BMPs focusing on the pollutant of concern for suspect outfall(s). The BMPs shall encompass each of the six minimum control measures.

7.6.2 Prioritized Outfall Monitoring

Information gathered from the investigations shall be used to identify and/or revise the list of the six largest contributors of pollutants of concern described in Section 7.5.

7.7 Impaired Waters Discharge Mapping

If not already documented, the Town of Darien will inventory and map discharges to impaired waters by June 30, 2019. In general, outfall screening shall begin no later than June 30, 2018. At least 50% of these outfalls discharging to impaired waters must be screened by June 30, 2020. The screening process will be detailed in the Town's Written IDDE plan (see BMP 3.1). Progress must be document in the Annual Report.

Section 8

Plan Certifications

8.1 Certification of Chief Executive Officer

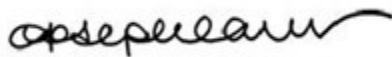
I hereby certify that I am making this certification in connection with a registration under the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4), submitted to the commissioner by the Town of Darien for an activity located at or within the Town of Darien, and that all terms and conditions of the general permit are being met for all discharges which have been initiated and such activity is eligible for authorization under such permit. I further certify that a system is in place to ensure that all terms and conditions of this general permit will continue to be met for all discharges authorized by this general permit at the site. I certify that the registration filed pursuant to this general permit is on complete and accurate forms as prescribed by the commissioner without alteration of their text. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(8)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify that I have made an affirmative determination in accordance with Section 3(b)(8)(B) of this general permit. I understand that the registration filed in connection with such general permit is submitted in accordance with and shall comply with the requirements of section 22a-430b of Connecticut General Statutes. I also understand that knowingly making any false statement made in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law.

Jayme Stevenson, First Selectman

Date

8.2 Engineering Certification

I hereby certify that I am making this certification in connection with a registration under the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems, submitted to the Commissioner by the Town of Darien for an activity located at or within the Town of Darien and that all terms and conditions of the general permit are being met for all discharges which have been created, initiated or maintained and such activity is eligible for authorization under such permit. I further certify that a system is in place to ensure that all terms and conditions of this general permit will continue to be met for all discharges authorized by this general permit at the site. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(8)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify that I have made an affirmative determination in accordance with Section 3(b)(8)(B) of this general permit. I understand that the registration filed in connection with such general permit is submitted in accordance with and shall comply with the requirements of Section 22a-430b of Connecticut General Statutes, as amended by Public Act 12-172. I also understand that knowingly making any false statement made in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law.



Joseph A. Canas, PE, LEED AP, CFM
Project Manager, Tighe & Bond, Inc

March 31, 2017

Date

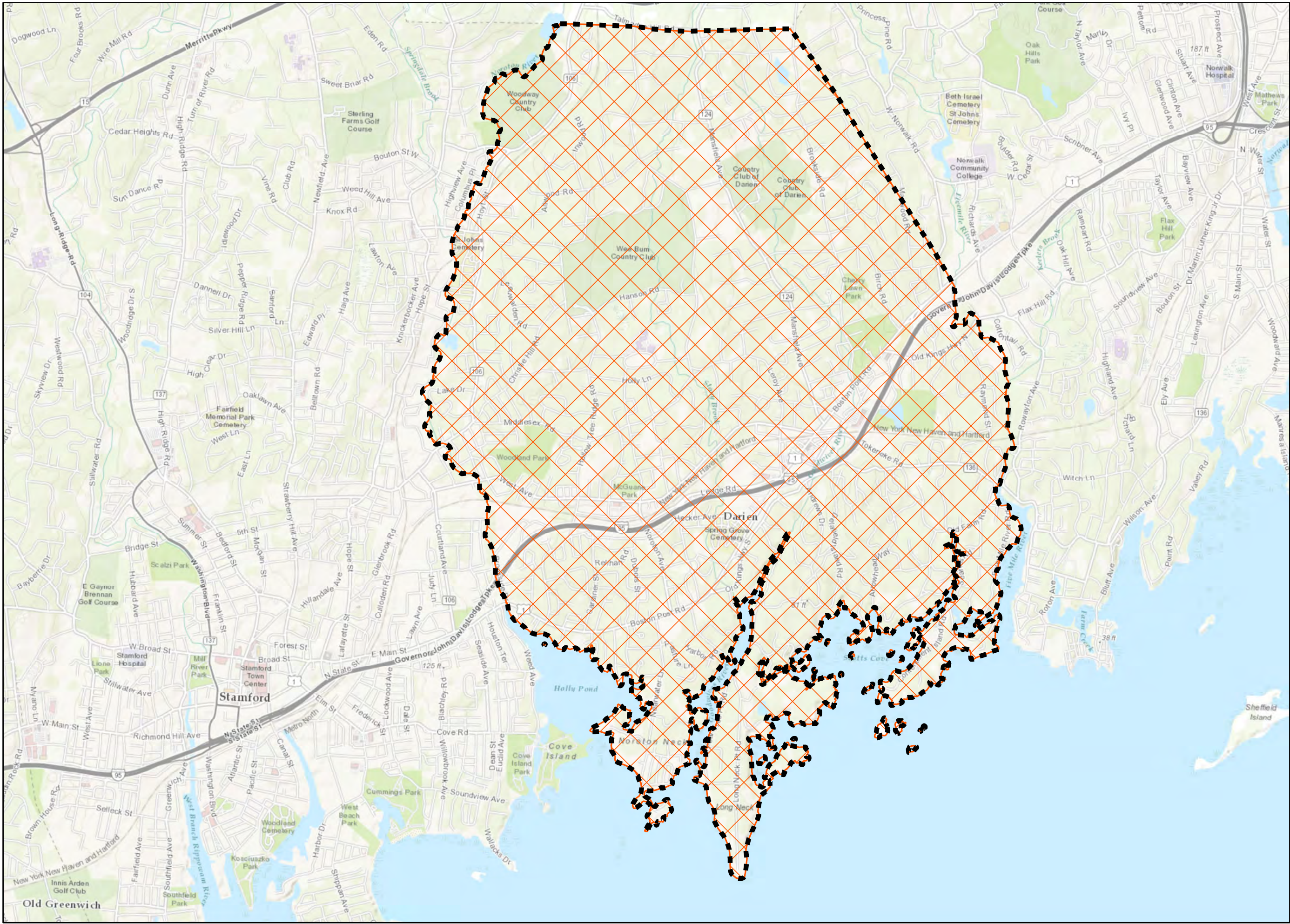




FIGURE O-1
URBANIZED AREAS

LEGEND


 CT Municipal Boundary

 Urban Area (2010 Census)

LOCUS MAP



0 3,000 Feet



NOTES

1. Urban Area digitized from the following pdf:
<http://www.ct.gov/dot/lib/dot/documents/dpolicy/policymaps/ref/2010cturbanizedareas.pdf>

MS4 Project
Darien, Connecticut

March 2017

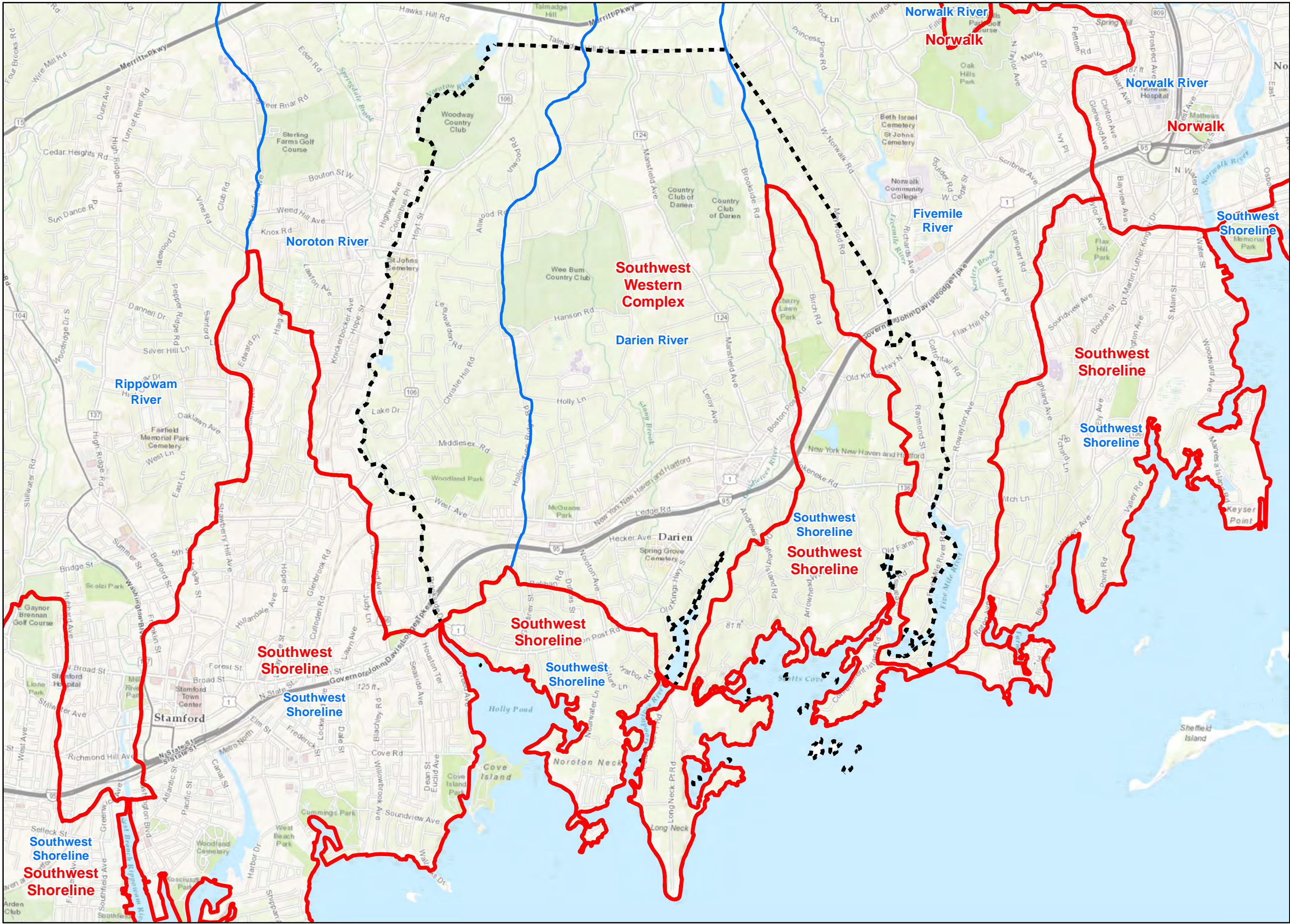


FIGURE O-2
CTDEEP DRAINAGE
BASINS

LEGEND

- Regional Drainage Basin
- Subregional Drainage Basin
- CT Municipal Boundary

LOCUS MAP

0 3,000 Feet

NOTES

1. Data acquired from CTDEEP GIS, November 2016

MS4 Project
Darien, Connecticut

March 2017

Tighe&Bond
Engineers | Environmental Specialists

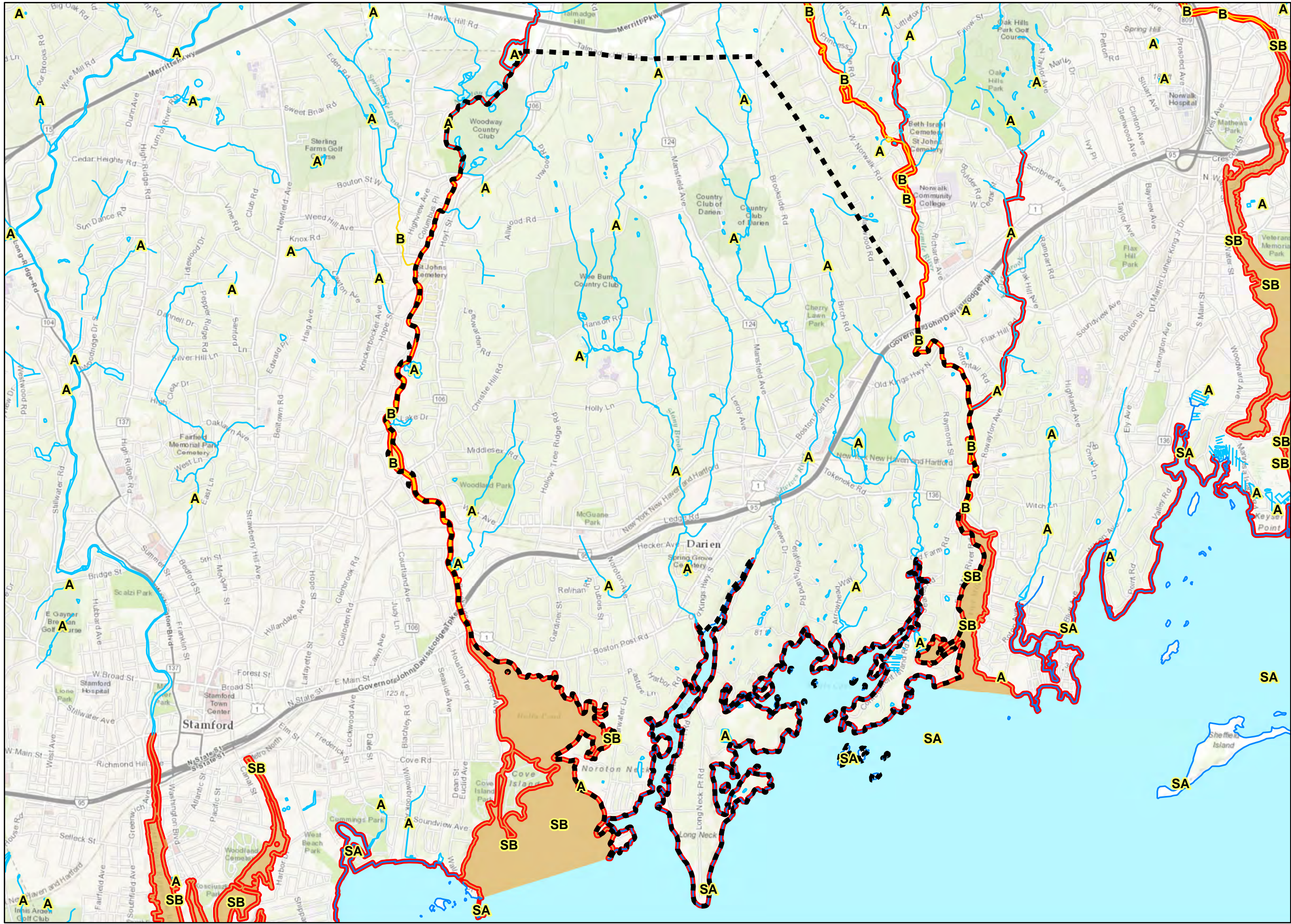


FIGURE O-3
WATER QUALITY
CLASSIFICATION

LEGEND

- A
- AA
- B, B*
- SA
- SB
- A
- AA
- B, B*
- SA
- SB
- Impaired Waters
- CT Municipal Boundary

LOCUS MAP

NOTES

1. Data acquired from CTDEEP GIS, November 2016

MS4 Project
Darien, Connecticut

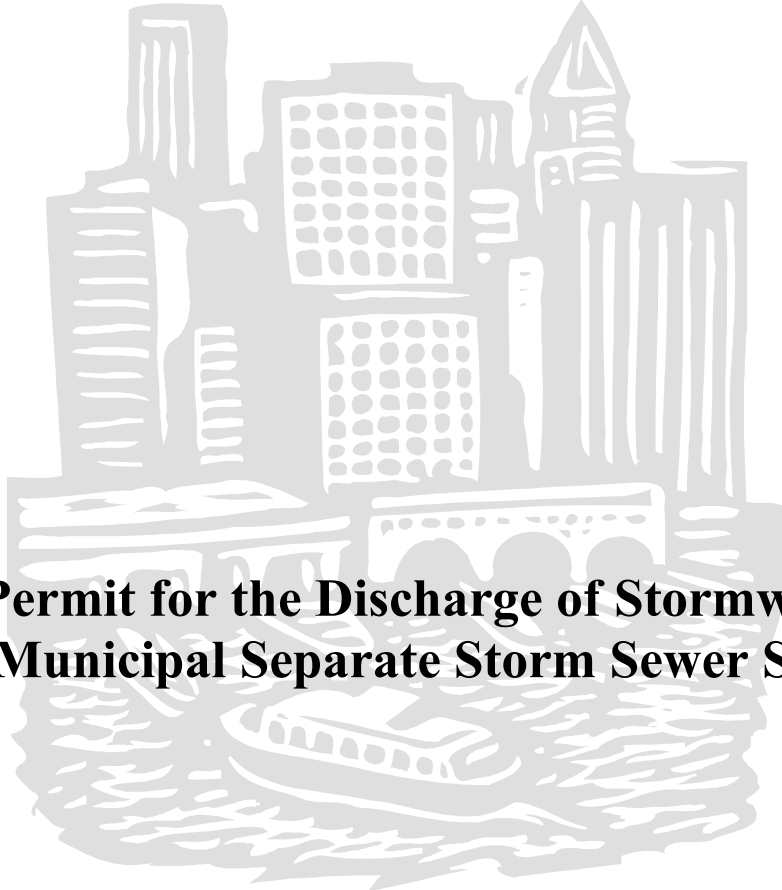
March 2017

Tighe&Bond
Engineers | Environmental Specialists

APPENDIX A



**Connecticut Department of
Energy & Environmental Protection**
Bureau of Materials Management & Compliance Assurance
Water Permitting & Enforcement Division



General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

Issued: January 20, 2016

Effective: July 1, 2017

Expires: June 30, 2022

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

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Section 1. Authority

This general permit is issued under the authority of Section 22a-430b of the Connecticut General Statutes.

Section 2. Definitions

The definitions of terms used in this general permit shall be the same as the definitions contained in Sections 22a-423 of the Connecticut General Statutes and Section 22a-430-3(a) of the Regulations of Connecticut State Agencies. As used in this general permit, the following definitions shall apply:

“x-year, 24-hour rainfall event” means the maximum 24-hour precipitation event with a probable recurrence interval of once in the given number of years (i.e. x=2, 25 or 100), as defined by the National Weather Service in Technical Paper Number 40, “Rainfall Frequency Atlas of the United States,” May 1961, and subsequent amendments, or equivalent regional or state rainfall probability information developed therefrom.

“Aquifer protection area” means aquifer protection area as defined in section 22a-354h of the Connecticut General Statutes.

“Best engineering practices” means the design of engineered control measures to control pollution to the maximum extent achievable using measures that are technologically available and economically practicable.

“Best Management Practices (BMP)” means schedules of activities, practices (and prohibitions of practices), structures, vegetation, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the state consistent with state, federal or other equivalent and technically supported guidance. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from material storage.

“Catchment area” means the land area from which stormwater runoff is collected by a permittee’s MS4 and discharges through a single outfall to surface water.

“Coastal Jurisdiction Line” means the location of the topographical elevation of the highest predicted tide as defined in Section 22a-359(c) of the Connecticut General Statutes.

“Coastal waters” means coastal waters as defined in Section 22a-93(5) of the Connecticut General Statutes.

“Commissioner” means Commissioner as defined in section 22a-423 of the Connecticut General Statutes.

“Control Measures” means any BMPs or other methods (including effluent limitations) used to prevent or reduce the discharge of pollutants to waters of the state.

“Department” means the Department of Energy & Environmental Protection.

“Directly Connected Impervious Area (DCIA)” means that impervious area from which stormwater runoff discharges *directly* to waters of the state or *directly* to a storm sewer system that discharges to waters of the state. Impervious areas that discharge through a system designed to retain the

appropriate portion of the Water Quality Volume (pursuant to Section 6(a)(5)(b)(i) or (ii) of this general permit) are not considered DCIA.

“Fresh-tidal wetland” means a tidal wetland located outside of coastal waters.

“Grab sample” means an individual sample collected in less than fifteen minutes.

“Guidelines” means the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended, established pursuant to Section 22a-328 of the Connecticut General Statutes.

“High Quality Waters” means those waters defined as high quality waters in the Connecticut Water Quality Standards pursuant to Section 22a-426-1(36) of the Regulations of Connecticut State Agencies.

“Illicit Discharge” means any unpermitted discharge to waters of the state that does not consist entirely of stormwater or uncontaminated ground water except those discharges identified in Section 3(a)(2) of this general permit when such non-stormwater discharges are not significant contributors of pollution to a discharge from an identified MS4.

“Impaired water(s)” means those surface waters of the state designated by the Commissioner as impaired pursuant to Section 303(d) of the federal Clean Water Act and as identified in the most recent State of Connecticut Integrated Water Quality Report within Categories 4 or 5, including any subdivisions of these categories.

“Individual permit” means a permit issued to a named permittee under Section 22a-430 of the Connecticut General Statutes.

“Inland wetland” means wetlands as that term is defined in Section 22a-38 of the Connecticut General Statutes.

“Low Impact Development” or *“LID”* means a site design strategy that maintains, mimics or replicates pre-development hydrology through the use of numerous site design principles and small-scale treatment practices distributed throughout a site to manage runoff volume and water quality at the source.

“Minimize”, for purposes of implementing the minimum control measures in Section 6 of this general permit, means to reduce and/or eliminate to the Maximum Extent Practicable (MEP) as described in Section 5(b).

“Municipal separate storm sewer system” or *“MS4”* means conveyances for stormwater (including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains) owned or operated by any municipality or by any state or federal institution and discharging to surface waters of the state.

“Municipality” means a city, town or borough of the state as defined in section 22a-423 of the Connecticut General Statutes.

“New or Increased Discharge” means new discharge or activity as defined in section 22a-426-8(b)(3) and increased discharge or activity as defined in section 22a-426-8(b)(2), as referenced to the Regulations of Connecticut State Agencies.

“Permittee” means any municipality or any state or federal institution that initiates, creates, originates or maintains a discharge authorized by this general permit and that has filed a registration pursuant to Section 4 of this permit.

“Point Source” means any discernible, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged.

“Qualified professional engineer” means a professional engineer who: (1) has, for a minimum of eight (8) years, engaged in the planning and designing of engineered stormwater management systems for (i) municipal separate storm sewer systems and (ii) residential and commercial construction projects in accordance with the Guidelines and the Stormwater Quality Manual including, but not limited to, a minimum of four (4) years in responsible charge of the planning and designing of engineered stormwater management systems for such projects; or (2) is currently certified as a Professional in MS4 Stormwater Compliance as designated by EnviroCert International, Incorporated, or other certifying organization acceptable to the Commissioner, and for a minimum of six (6) years, has engaged in the planning and designing of engineered stormwater management systems for (i) municipal separate storm sewer systems and (ii) residential and commercial construction projects in accordance with the Guidelines and the Stormwater Quality Manual including, but not limited to, a minimum of two (2) years in responsible charge of the planning and designing of engineered stormwater management systems for such projects; or (3) currently provides engineering services for the Permittee by employ (e.g. Town Engineer) or by contract.

“Registrant” means a municipality or institution which files a registration pursuant to Section 4 of this general permit.

“Redevelopment” means any construction activity (including, but not limited to, clearing and grubbing, grading, excavation, and dewatering) within existing drainage infrastructure or at an existing site to modify or expand or add onto existing buildings or structures, grounds, or infrastructure.

“Registration” means a registration form filed with the Commissioner pursuant to Section 4 of this general permit.

“Retain” means to hold runoff on-site to promote vegetative uptake and groundwater recharge through the use of runoff reduction or LID practices or other measures. In addition, it means there shall be no subsequent point source release to surface waters from a storm event defined in this general permit or as approved by the Commissioner.

“Runoff reduction practices” means those post-construction stormwater management practices used to reduce post-development runoff volume delivered to the receiving water, as defined by retaining the volume of runoff from a storm up to the first half inch or one inch of rainfall in accordance with Sections 6(a)(5)(B)(i) or (ii), respectively. Runoff reduction is quantified as the total annual post-development runoff volume reduced through canopy interception, soil amendments, evaporation, rainfall harvesting, engineered infiltration, extended filtration or evapotranspiration.

“Sanitary Sewer Overflow” or *“SSO”* means a discharge of untreated sanitary wastewater from a municipal sanitary sewer.

“*Small MS4*” means any municipally-owned or -operated MS4 (as defined above) including all those located partially or entirely within an Urbanized Area that have at least 1,000 residents in the Urbanized Area (as determined by the 2000 or 2010 census) and all state- and federally-operated MS4s (except DOT) and any other MS4s located outside an Urbanized Area as may be designated by the Commissioner. (Note: A list of Small MS4 municipalities is included in Appendix A of this general permit. DOT will be authorized under a separate permit.)

“*Standard of care*”, as used in Section 3(b)(9), means to endeavor to perform in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances.

“*State or Federal Institution*” or “*institution*” means any facility (including, but not limited to, state and federal prisons, office complexes, hospitals; university campuses, public housing authorities, schools, or other special districts) consisting of more than one building that is owned by an agency or department of the State of Connecticut (except the Department of Transportation) or a federal agency and has an average daily population of 1,000 people or more.

“*Stormwater*” means waters consisting of rainfall runoff, including snow or ice melt during a rain event.

“*Stormwater Quality Manual*” means the Connecticut Stormwater Quality Manual published by the Connecticut Department of Energy & Environmental Protection in 2004, as amended and maintained at <http://www.ct.gov/deep/stormwaterqualitymanual>.

“*Surface water*” means those waters as defined in Section 22a-426-1(60) of the Regulations of Connecticut State Agencies.

“*Tidal wetland*” means a wetland as that term is defined in Section 22a-29(2) of the Connecticut General Statutes.

“*Total Maximum Daily Load (TMDL)*” means a water quality implementation plan established pursuant to Section 303 of the federal Clean Water Act.

“*Urbanized Area (UA)*” means the areas of the State of Connecticut so defined by the U.S. Census Bureau for the 2000 or 2010 census.

“*Water Quality Standards or Classifications*” means those water quality standards or classifications contained in Sections 22a-426 -1 through 22a-426-9, inclusive, of the Regulations of Connecticut State Agencies and the Classification Maps adopted pursuant to Section 22a-426 of the Connecticut General Statutes, which together constitute the Connecticut Water Quality Standards., as may be amended.

“*Water Quality Volume*” or “*WQV*” means the volume of runoff generated by one inch of rainfall on a site as defined in the Connecticut Stormwater Quality Manual.

Section 3. Authorization Under This General Permit

(a) Eligible Activities

- (1) This general permit authorizes the discharge of stormwater from or associated with a Small MS4, provided the requirements of subsection (b) of this section are satisfied and the activity is conducted in accordance with the conditions listed in Section 5 of this general permit to the Maximum Extent Practicable (as defined in Section 5(b)).
- (2) This permit authorizes the following non-stormwater discharges provided: the permittee controls such non-stormwater discharges to the Maximum Extent Practicable (MEP), as required by this general permit; such non-stormwater discharges do not contribute to a violation of water quality standards; and such non-stormwater discharges are documented in the Stormwater Management Plan and are not significant contributors of pollutants to any identified MS4:
 - uncontaminated ground water discharges including, but not limited to, pumped ground water, foundation drains, water from crawl space pumps and footing drains;
 - irrigation water including, but not limited to, landscape irrigation and lawn watering runoff;
 - residual street wash water associated with sweeping;
 - discharges or flows from firefighting activities (except training); and
 - naturally occurring discharges such as rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)), springs, diverted stream flows and flows from riparian habitats and wetlands.
- (3) Any non-stormwater discharge to the MS4 authorized by a permit issued pursuant to Section 22a-430 or 22a-430b of the Connecticut General Statutes is also authorized under this general permit.

(b) Requirements for Authorization

This general permit authorizes the activity listed in the “Eligible Activities” section (Section 3(a)) of this general permit provided:

(1) Coastal Management Act

Such activity is consistent with all applicable goals and policies in Section 22a-92 of the Connecticut General Statutes, and must not cause adverse impacts to coastal resources as defined in Section 22a-93(15) of the Connecticut General Statutes.

(2) Endangered and Threatened Species

Implementation of the permittee’s Stormwater Management Plan shall not threaten the continued existence of any species listed pursuant to section 26-306 of the Connecticut General Statutes as endangered or threatened and must not result in the destruction or adverse modification of habitat designated as essential to such species unless otherwise exempted by Federal statute.

(3) Aquifer Protection Areas

Such activity, if it is located within an aquifer protection area as mapped under section 22a-354b of the Connecticut General Statutes, must comply with regulations adopted pursuant to section 22a-354i of the Connecticut General Statutes.

(4) Discharge to POTW

The stormwater is *not* discharged to a Publicly Owned Treatment Works (POTW).

(5) Discharge to Groundwater

The stormwater is *not* discharged entirely to groundwater, meaning a stormwater discharge to a surface water will not occur up to a 100-year, 24-hour rainfall event.

(6) New or Increased Discharges to High Quality Waters

On or before thirty (30) days prior to the commencement of a new or increased discharge to a High Quality Waters from its MS4, the permittee must document compliance with the Connecticut Anti-Degradation Implementation Policy in the Water Quality Standards, as amended. Before commencing any new or increased discharge, the permittee shall identify in its Stormwater Management Plan ("Plan"), the control measures it will implement to ensure compliance with anti-degradation provisions and the terms of this Permit. At a minimum, the permittee shall evaluate and implement to the Maximum Extent Practicable practices which will prevent the discharge of the Water Quality Volume to a surface water body or other practices necessary to protect and maintain designated uses and meet standards and criteria contained in the Water Quality Standards.

(7) New or Increased Discharges to Impaired Waters

There shall be no increased discharges from the MS4 to impaired waters listed in categories 5 or 4b of the most recent Connecticut Integrated Water Quality Report of waters listed pursuant to Clean Water Act section 303(d) and 305(b) unless the permittee demonstrates that there is no net increase in loading by the MS4 to the impaired water of the pollutant(s) for which the waterbody is impaired. The permittee may demonstrate no net increase by either:

- (A) Documenting that the pollutant(s) for which the waterbody is impaired is not present in the MS4's discharge and retain documentation of this finding with the Plan; or
- (B) Documenting that the total load of the pollutant(s) of concern from the MS4 to any impaired portion of the receiving water will not increase as a result of the activity and retain documentation of this finding in the Plan. Compliance with the requirements for Runoff Reduction and Low Impact Development measures for new development and redevelopment in Sections 6(a)(5)(A) and (B) shall be considered as demonstrating no net increase. Requirements for discharges to impaired waters are included in Section 6(k) of this general permit.

(8) Certification Requirements for Registrants and other Individuals

As part of the registration for this general permit, the registrant and any other individual or individuals principally responsible for preparing the registration submits to the Commissioner a written certification which, at a minimum, complies with the following requirements:

- (A) The registrant and any other individual or individuals responsible for preparing the registration and signing the certification has completely and thoroughly reviewed, at a minimum, this general permit and the following regarding the activities to be authorized under such general permit: (i) all registration information provided in accordance with Section 4(c)(2) of such general permit, (ii) the Stormwater Management Plan, and (iii) any plans and specifications and any Department approvals regarding such Stormwater Management Plan;
- (B) The registrant and any other individual or individuals responsible for preparing the registration and signing the certification pursuant to this general permit has, based on the review described in section 3(b)(8)(A) of this general permit, made an affirmative determination to: (i) comply with the terms and conditions of this general permit; (ii) maintain compliance with all plans and documents prepared pursuant to this general permit including, but not limited to, the Stormwater Management Plan; (iii) properly implement and maintain the elements of the Stormwater Management Plan; and (iv) properly operate and maintain all stormwater management measures and systems in compliance with the terms and conditions of this general permit to protect the waters of the state from pollution;
- (C) Such registrant and any other individual or individuals responsible for preparing the registration certifies to the following statement:

"I hereby certify that I am making this certification in connection with a registration under the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems, submitted to the Commissioner by [INSERT NAME OF REGISTRANT] for an activity located at or within [NAME OF MUNICIPALITY OR ADDRESS OF THE REGISTERED ACTIVITY] and that all terms and conditions of the general permit are being met for all discharges which have been created, initiated or maintained and such activity is eligible for authorization under such permit. I further certify that a system is in place to ensure that all terms and conditions of this general permit will continue to be met for all discharges authorized by this general permit at the site. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(8)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify that I have made an affirmative determination in accordance with Section 3(b)(8)(B) of this general permit. I understand that the registration filed in connection with such general permit is submitted in accordance with and shall comply with the requirements of Section 22a-430b of Connecticut General Statutes, as amended by Public Act 12-172. I also understand that knowingly making any false statement made in the submitted information and in this certification may be punishable as a criminal offense, including

the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

(9) Stormwater Management Plan Certification

As part of the registration for this general permit, the registrant submits to the Commissioner a written certification by a qualified professional engineer who has reviewed the Stormwater Management Plan (Plan) in accordance with the following requirements:

- (A) The qualified professional engineer has, at a minimum, completely and thoroughly reviewed this general permit and the following regarding the discharges to be authorized under such general permit: (i) all registration information provided in accordance with Section 4(c)(2) of such general permit, (ii) the Stormwater Management Plan, and (iii) all non-engineered and engineered stormwater management measures and systems, including any plans and specifications and any Department approvals regarding such stormwater management measures and systems.

(B) Affirmative Determination

A qualified professional engineer signing the certification must have made an affirmative determination, based on the review described in section 3(b)(9)(A) of this general permit and on best engineering practices, that the Plan and control measures therein are adequate to assure that the activity authorized under this general permit will comply with the terms and conditions of such general permit and all non-engineered and engineered stormwater management measures and systems: (i) have been designed in accordance with best engineering practices; (ii) will function properly as designed; (iii) are adequate to ensure compliance with the terms and conditions of this general permit; and (iv) will protect the waters of the state from pollution.

- (C) The qualified professional engineer, as specified in section 3(b)(9)(A), above, shall certify to the following statement:

"I hereby certify that I am a qualified professional engineer, as defined in the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems. I am making this certification in connection with a registration under such general permit, submitted to the Commissioner by [INSERT NAME OF REGISTRANT] for an activity located at or within [NAME OF MUNICIPALITY OR ADDRESS OF THE REGISTERED ACTIVITY]. I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(9)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify, based on my review of all information described in Section 3(b)(9)(A) of such general permit and on the standard of care for such projects, that I have made an affirmative determination in accordance with Section 3(b)(9)(B) of this general permit. I understand that this certification is part of a registration submitted in accordance with Section 22a-430b of Connecticut General Statutes and is subject to the requirements and responsibilities for a qualified professional in such statute. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment,

under section 53a-157b of the Connecticut General Statutes and any other applicable law."

- (D) Nothing in this subsection shall be construed to authorize or require a qualified professional engineer to engage in any profession or occupation requiring a license under any other provision of the Connecticut General Statutes without such license.

(c) Registration

Pursuant to the "Registration Requirements" section (Section 4) of this permit, a Small MS4 shall submit a Registration Form (accessible from the DEEP website) to the Commissioner at least ninety (90) days prior to the effective date of this general permit. The form will guide the registrant to submit the appropriate information.

Include any additional forms and information regarding compliance and/or consistency with the Coastal Management Act, High Quality Waters, Impaired Waters (including TMDL requirements), Endangered and Threatened Species, and Aquifer Protection Areas that may be required pursuant to the "Requirements of Authorization" section (Section 3(b)).

(d) Geographic Area

This general permit applies throughout the State of Connecticut.

(e) Effective Date and Expiration Date of this General Permit

This general permit is effective July 1, 2017 and expires on June 30, 2022.

(f) Effective Date of Authorization

An activity is authorized by this general permit: on the date the general permit becomes effective; on the date a complete registration meeting the requirements of Section 4(c) is submitted; for registrants that did not register as required by Section 3(c), on the date the authorized activity is initiated; or on another date approved by the Commissioner, whichever is latest.

Section 4. Registration Requirements

(a) Who Must File a Registration

Any municipality or state or federal institution that initiates, creates, originates or maintains a discharge of stormwater from or associated with a Small MS4 shall file with the Commissioner a registration form that meets the requirements of this section of this general permit. Such form shall be submitted along with the applicable fee within the timeframes and in the amounts specified in Sections 3(c) and 4(c)(1)(A), respectively.

(b) Scope of Registration

A registrant must register on one registration form by the date indicated in Section 3(c) for all discharges that are operated by the registering municipality or institution. A registrant may not submit more than one registration under this general permit.

(c) Contents of Registration

(1) Fees

- (A) The registration fee for a Small MS4 shall be \$625 to be submitted with the registration form.
- (B) The fees for municipalities shall be half of those indicated in subsection (A) above pursuant to section 22a-6(b) of the Connecticut General Statutes. State and Federal agencies shall pay the full fees specified in this subsection.
- (C) The registration fee shall be paid electronically or by check or money order payable to the **Department of Energy & Environmental Protection**.
- (D) No activity shall be authorized by this general permit until the registration fee has been paid in full.
- (E) The registration fee is non-refundable.

(2) Registration Form

The registration shall be filed in a form prescribed and provided by the Commissioner (available on the DEEP website) and shall include the following:

- (A) Name of the permittee and the name, title, address, telephone number, permit number (for existing 2004 MS4 permittees) and email address of the chief elected official or principal executive officer.
- (B) Name, address, telephone number, and email address of the primary contact person for the permittee.
- (C) Name, primary contact, address, telephone number, and email address of any consultant(s) or engineer(s) retained by the permittee to prepare the registration,
- (D) Name of receiving stream(s), watershed(s) or waterbody(s) (including waterbody ID number which can be identified at www.cteco.uconn.edu) to which the MS4 discharges and indication of whether or not a receiving stream is listed as an impaired water, with or without a TMDL, and including identification of the impairment in the most recent State of Connecticut Integrated Water Quality Report or identification of the receiving stream as a high quality water by the Commissioner as defined in the Connecticut Water Quality Standards.
- (E) An electronic map or a paper copy of the relevant portion or a full-sized original of a United States Geological Survey (USGS) quadrangle map with a scale of 1:24,000, showing the permittee's boundaries and limits of its separate storm sewer system. If a paper copy of a map is submitted, identify the quadrangle name on the map and be sure to include the name of the permittee.
- (F) Assurance that the Stormwater Management Plan for the MS4 is consistent with the following provisions of state statutes and regulations, as appropriate:

- (i) For sites within the Coastal Boundary, the permittee must address all applicable goals and policies in Section 22a-92 of the Connecticut General Statutes, and must not cause adverse impacts to coastal resources as defined in Section 22a-93(15) of the Connecticut General Statutes.
 - (ii) The permittee's Stormwater Management Plan will not threaten the continued existence of any species listed pursuant to section 26-306 of the Connecticut General Statutes as endangered or threatened and will not result in the destruction or adverse modification of habitat designated as essential to such species.
 - (iii) The implementation of the permittee's Stormwater Management Plan for any part of the MS4 located within an aquifer protection area (see Appendix C) as mapped under section 22a-354b of the Connecticut General Statutes will comply with regulations adopted pursuant to section 22a-354i of the Connecticut General Statutes. For any activity regulated pursuant to sections 8(c) and 9(b) of the Aquifer Protection Regulations (section 22a-354i(1)-(10) of the Regulations of Connecticut State Agencies), the Stormwater Management Plan must assure that stormwater run-off generated from the MS4 is managed in a manner so as to prevent pollution of groundwater.
 - (iv) The Stormwater Management Plan has been reviewed for consistency with state Historic Preservation statutes, regulations, and policies including identification of any potential impacts on property listed or eligible for listing on the Connecticut Register of Historic Places. A review conducted for an Army Corps of Engineers Section 404 wetland permit would meet this qualification.
 - (v) The Stormwater Management Plan appropriately addresses new or increased discharges to high quality waters, as specified in Section 3(b)(6).
 - (vi) The Stormwater Management Plan appropriately addresses new or increased discharges to impaired waters, as specified in Section 3(b)(7).
- (G) For each of the Minimum Control Measures in Section 6(a), the following information shall be included:
- (i) each Best Management Practice (BMP) to be implemented;
 - (ii) the person(s) responsible for implementing and maintaining each BMP;
 - (iii) the date by which each BMP will be implemented;
 - (iv) the measurable goal(s) by which each BMP will be evaluated.
- (H) Provide an internet address (URL) where the Stormwater Management Plan required by Section 5(b) and the Annual Reports required by Section 6(j) are accessible for public review. Also provide a physical address where a paper copy of the Plan and Annual Reports are available for inspection. If the registrant claims that certain elements of their Plan constitute secure information (pursuant to Section 4(d)(2)) or are otherwise exempt from the disclosure requirements of the state Freedom of Information Act (section 1-210 et seq of the Connecticut General Statutes, also called FOIA) as specified in that Act, the registrant shall follow the procedures provided in the

registration form instructions for this general permit regarding information subject to FOIA requirements. The process of complying with the FOIA requirements does not exempt the registrant from the registration and Plan preparation deadlines of this general permit.

- (I) The certification of the registrant and of the individual or individuals responsible for actually preparing the registration, in accordance with Section 3(b)(8).
- (J) Certification (pursuant to the requirements and conditions of Section 3(b)(9)) that the Stormwater Management Plan has been reviewed by a qualified professional engineer (as defined in Section 2) licensed in the State of Connecticut.

(d) Availability of Registrations, Stormwater Management Plans and Annual Reports

(1) Registration Availability

Within thirty (30) days of receipt of a registration, the Commissioner shall post on the DEEP website a list of registrations submitted and identify the location where the Stormwater Management Plan is available.

On or before sixty (60) days from the date of posting of a registration by the Commissioner, members of the public may review the registration and submit written comments to the Commissioner.

(2) Stormwater Management Plan Availability

A permittee shall make its Stormwater Management Plan (Plan) available, electronically and at a publicly available location, for public review and comment at least ninety (90) days prior to the effective date of this general permit. The permittee shall also provide the internet address (URL) where the Plan may be located or an electronic copy to the Commissioner. Within thirty (30) days of receipt of a Stormwater Management Plan (or its URL), the Commissioner shall post on the DEEP website a list of Plans submitted and identify the location where the Plan will be available for review. In addition to the internet address (URL) required as part of the registration (pursuant to Section 4(c)(2)(H)), reasonable efforts to inform the public of this document shall be undertaken by the permittee. The Plan shall be made available at the permittee's main office or other designated municipal or institution office, a local library or other publicly available location for public inspection and copying consistent with the federal and state Freedom of Information Acts. On or before sixty (60) days from the date of the availability of the Plan, members of the public may review the Plan and submit written comments on it to the Commissioner.

If the registrant claims that certain elements of their Plan constitute secure information subject to restrictions related to Homeland Security or other security issues otherwise exempt from the disclosure requirements of the state Freedom of Information Act (section 1-210 et seq of the Connecticut General Statutes, also called FOIA) as specified in that Act, they shall follow the procedures provided in the registration form instructions for this general permit regarding information subject to FOIA requirements. The process of complying with the FOIA requirements does not exempt the registrant from the registration and Plan preparation deadlines in this general permit.

Following the comment period specified above, the final Plan shall remain available for public inspection on-line and a paper copy made available at the location specified above during regular business hours.

(3) Annual Report Availability

At least forty five (45) days prior to submission of each Annual Report to the Department, pursuant to Section 6(j), each permittee shall make available for public review and comment a draft copy of the complete Annual Report. Comments on the Annual Report may be made to the permittee and are *not* submitted to the Department. Reasonable efforts to inform the public of this document shall be undertaken by the permittee. Such draft copies shall be made available electronically on the permittee's website for public inspection and copying consistent with the federal and state Freedom of Information Acts and at at least one of the following locations: the permittee's main office or other designated municipal or institution office, a local library or other central publicly available location. Following submission of the Annual Report (pursuant to Section 6(j)), a copy of the final report shall be made available for public inspection during regular business hours.

(e) *Where to File a Registration*

A registration shall be filed with the Commissioner on forms available through the DEEP website.

(f) *Additional Information*

The Commissioner may require a registrant to submit additional information, which the Commissioner reasonably deems necessary to evaluate the consistency of the subject activity with the requirements for authorization under this general permit.

(g) *Additional Notification*

For discharges authorized by this general permit to another regulated Small MS4 or to the City of Stamford, a copy of the registration and all attachments thereto shall also be submitted to the owner and operator of that system.

For discharges authorized by this general permit to a DOT separate storm sewer system, a copy of the registration and all attachments thereto shall also be submitted to the DOT upon request.

For discharges within a public drinking water supply watershed or aquifer area, the permittee shall notify the water company of the availability (pursuant to Sections 4(d)(1) and (2), above) of the registration and the Plan described in subsection 5(b) of this general permit or the registration and Plan shall be submitted to the water company upon request.

For discharges to river components and tributaries which have been designated as Wild and Scenic under the Wild and Scenic Rivers Act, a copy of the registration and the Plan described in 5(b) of this general permit shall be submitted to the applicable Wild and Scenic Coordinating Committee upon request.

(h) Action by Commissioner

- (1) The Commissioner may require that a permittee obtain an individual permit for any discharge authorized by this permit in accordance with Section 22a-430b of the Connecticut General Statutes.
- (2) The Commissioner may reject without prejudice a registration if he or she determines that it does not satisfy the registration requirements (Section 4(c)) of this general permit. Any registration refiled after such a rejection shall be accompanied by the fee specified in the "Fees" section (Section 4(c)(1)) of this general permit.
- (3) The Commissioner may disapprove a registration if he or she finds that the subject activity is inconsistent with the "Requirements for Authorization" section (Section 3(b)) of this general permit, or for any other reason provided by law.
- (4) Disapproval of a registration under this subsection shall constitute notice to the registrant that the subject activity must be authorized by an individual permit.
- (5) Disapproval of a registration shall be in writing.

Section 5. Requirements of this General Permit

The permittee shall at all times continue to meet the requirements for authorization set forth in Section 3 of this general permit. In addition, a permittee shall ensure that authorized activities are conducted in accordance with the following conditions:

(a) Conditions Applicable for Certain Discharges

- (1) If the permittee initiates, creates, or originates a discharge of stormwater which is located less than 500 feet from a tidal wetland that is not a fresh-tidal wetland, such discharge shall flow through a system designed to retain the Water Quality Volume, as defined in Section 2.
- (2) If the permittee wishes to initiate, create, or originate a discharge of stormwater below the coastal jurisdiction line into coastal, tidal, or navigable waters for which a permit is required under the Structures and Dredging Act in accordance with Section 22a-361(a) of the Connecticut General Statutes or into tidal wetlands for which a permit is required under the Tidal Wetlands Act in accordance with Section 22a-32 of the Connecticut General Statutes, the municipality shall obtain such permit(s) from the Commissioner prior to initiating, creating or originating such discharge.
- (3) There shall be no distinctly visible floating scum, oil or other matter contained in the stormwater discharge. Excluded from this are naturally occurring substances such as leaves and twigs provided no person has placed such substances in or near the discharge.
- (4) The stormwater discharge shall not result in pollution which may cause or contribute to acute or chronic toxicity to aquatic life, impair the biological integrity of aquatic or marine ecosystems, or result in an unacceptable risk to human health.

- (5) The stormwater discharge shall not cause or contribute to an exceedance of the applicable Water Quality Standards in the receiving water.
- (6) Any new stormwater discharge to high quality waters (as identified by the Commissioner consistent with the Water Quality Standards) shall be discharged in accordance with the Connecticut Anti-Degradation Implementation Policy in the Water Quality Standards manual. At a minimum, the permittee shall evaluate and implement to the Maximum Extent Practicable practices which will prevent the discharge of the Water Quality Volume to a surface water body or other practices necessary to protect and maintain designated uses and meet standards and criteria contained in the Water Quality Standards.
- (7) Any stormwater discharge to the waters identified in Appendix D shall be managed for the Stormwater Pollutant of Concern identified in the appendix consistent with the requirements in Section 6 of this permit.

(b) *Stormwater Management Plan*

The permittee shall develop, implement, and enforce a stormwater management plan designed to reduce the discharge of pollutants from the Small MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the federal Clean Water Act. Maximum Extent Practicable (MEP) is a technology-based standard established by Congress in the Clean Water Act Section 402(p)(3)(B)(iii). Since no precise definition of MEP exists, it allows for maximum flexibility on the part of MS4 operators as they develop their programs. (40CFR 122.2, See also: Stormwater Phase II Compliance Assistance Guide EPA 833-R-00-002, March 2000). When trying to reduce pollutants to the MEP, there must be a serious attempt to comply, and practical solutions may not be lightly rejected. Factors such as the conditions of receiving waters, specific local concerns, MS4 size, climate, implementation schedules, current ability to finance the program, beneficial uses of receiving water, hydrology, geology, and capacity to perform operation and maintenance should be considered in determining whether permittee has complied with this general permit to the Maximum Extent Practicable.

Under this program, the permittee shall prepare a Stormwater Management Plan pursuant to Section 6 of this general permit, which plan must be completed by such time as specified in Section 4(d)(2) of this general permit. The permittee shall continue to implement the Stormwater Management Plan and all Minimum Control Measures required by this general permit throughout the entire term of the general permit. The permittee shall continue to provide for adequate staffing and economic resources for such implementation throughout the entire term of the general permit. If at any time the Commissioner finds that the Plan is not adequate to protect the waters of the state from pollution, the Commissioner may terminate authorization under this permit and require the permittee to submit an individual permit application.

Failure to implement all elements of the Stormwater Management Plan to the MEP constitutes a violation of this permit.

Section 6. Development of Stormwater Management Plan (Plan)

The Plan shall address the Minimum Control Measures as indicated in this section. Section 6(a) contains the requirements for Small MS4s. These measures shall be implemented throughout the boundaries of the municipality or institution except as otherwise indicated in this section.

(a) *Minimum Control Measures*

For each Minimum Control Measure, the permittee shall: define appropriate BMPs; designate a person(s) and job title responsible for each BMP; define a time line for implementation of each BMP; where appropriate, identify the location, including the address and latitude and longitude, for each BMP; and define measurable goals for each BMP. The Minimum Control Measures in the Plan include, but are not limited to:

(1) Public education and outreach

The goals of this minimum control measure are:

- To raise awareness that polluted stormwater runoff is the most significant source of water quality problems;
- To motivate residents to use Best Management Practices (BMPs) which reduce polluted stormwater runoff; and
- To reduce polluted stormwater runoff as a result of increased awareness and utilization of BMPs.

(A) Implement a public education program to distribute educational materials to the permittee's community (i.e. residents, business and commerce, students, staff, contractors, etc.) or conduct equivalent outreach activities about the sources and impacts of stormwater discharges on waterbodies and the steps that the public can take to reduce pollutants in stormwater runoff. The education program shall include, but not be limited to, information on management of pet waste, application of fertilizers, herbicides, and pesticides, impervious cover and impacts of illicit discharges and improper disposal of waste into the MS4. The form and content of the education program will be dependent on the audience and identified areas of concern for each MS4. Permittees may join other permittees in the same region to develop and implement a public education program. Educational information may be developed and/or acquired from other permittees, governmental agencies, community and non-governmental organizations, councils of government, academia, and/or environmental advocacy organizations. Outreach resources will be available from the DEEP stormwater webpage at www.ct.gov/deep/stormwater. Information may be disseminated with flyers, brochures, door hangers, television public service announcements, and/or web based tools. Each Annual Report shall summarize the types, sources, number of, and methods by which materials disseminated.

- (i) Permittees previously authorized by the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems issued on January 9, 2004 (existing 2004 MS4 permittees) shall begin implementation of this measure within the first year following the effective date of this permit and continue until permit expiration. Permittees shall utilize the materials developed under the 2004 MS4 permit and update or modify as necessary to acquire and/or develop the content of the outreach materials for this general permit.
- (ii) Permittees not previously authorized by the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems issued on January 9, 2004 (new MS4 permittees) shall begin implementation of this measure within the second year following the effective date of this permit and continue until

permit expiration. Permittees shall utilize the one year period following the effective date of this permit to acquire and/or develop the content of the outreach materials.

(B) To implement the public education and outreach program, the permittee shall develop or acquire current educational material from DEEP and other sources that identifies the pollutants (such as pathogens/bacteria, nitrogen, phosphorus, sediments, metals, oils & greases) associated with stormwater discharges, the potential sources of the pollutants, the environmental impacts of these pollutants, and related pollution reduction practices.

(C) Additional measures for discharges to waters associated with a Stormwater Pollutant of Concern

These measures may be implemented solely by the permittee or as part of a collaborative regional or statewide program to address the issue. However, the permittee retains sole responsibility for compliance with this section. The method of implementation shall be indicated in the permittee's Plan.

(i) For waters for which **Phosphorus** is a Stormwater Pollutant of Concern, educational materials shall be specifically tailored and targeted to educate on the sources, impacts, and available pollution reduction practices from the following:

- a. Septic systems
- b. Fertilizer use
- c. Grass clippings and leaves management
- d. Detergent use
- e. Discharge of sediment (to which Phosphorus binds) from Construction sites
- f. Other erosive surfaces

(ii) For waters for which **Nitrogen** is a Stormwater Pollutant of Concern, educational materials shall be specifically tailored and targeted to educate on the sources, impacts, and available pollution reduction practices from the following:

- a. Septic systems
- b. Fertilizer use
- c. Grass clippings and leaves management
- d. Discharge of sediment (to which Nitrogen binds) from Construction sites
- e. Other erosive surfaces

(iii) For waters for which **Bacteria** is a Stormwater Pollutant of Concern, educational materials shall be specifically tailored and targeted to educate on the sources, impacts, and available pollution reduction practices from the following:

- a. Septic systems
- b. Sanitary cross connections
- c. Waterfowl
- d. Pet waste
- e. Manure piles associated with livestock and horses

(iv) For waters for which **Mercury** is a Stormwater Pollutant of Concern, educational materials shall be specifically tailored and targeted to educate on the sources,

impacts and available recycling programs for elemental mercury and mercury-containing items such as:

- a. Thermometers
- b. Thermostats
- c. Fluorescent lights
- d. Button cell batteries

(D) Suggested Strategies.

- (i) Target specific populations: Each permittee is encouraged to direct such outreach program and/or materials at specific populations. Such target populations may include, for example, school age populations, farming populations, and urban populations. Sample educational material for each Stormwater Pollutant of Concern noted above will be made available by DEEP.
- (ii) Partner with local organizations: Permittees may wish to include in its outreach efforts various local organizations which may be able to assist in helping to spread the stormwater message.

(2) Public Involvement/Participation

The permittee shall provide opportunities to engage their community to participate in the review and implementation of the permittee's Plan. The goal of this minimum control measure is to involve the community in both the planning and implementation process of improving water quality. Public participation is beneficial to the success of a municipal stormwater management program because it allows for a broader public support, additional expertise, and a conduit to other programs. Community members are also more likely to apply these lessons/BMPs at home if they are part of the process.

- (A) Publish a public notice on the permittee's website, through an email or mailing list, if the permittee maintains one, or in a newspaper with general circulation in the area to inform the public of the Plan and the Annual Report required by Section 6(j) of this permit and to solicit comments on the Plan and Annual Report. The notice shall provide a contact name (with phone number, address, and email) to whom the public can send comments and a publicly accessible location (such as the MS4's main office or other designated municipal office, a local library or other central publicly available location) and/or URL where the Plan and Annual Report are available for public review. The public notice shall allow for a 30 day comment period, at a minimum. Municipalities and institutions shall publish this public notice annually no later than January 31.
- (B) The permittee is encouraged to enlist local organizations to help implement the elements of their Plan. However, the permittee retains sole responsibility for permit compliance.
- (C) No requirements in addition to those specified in subsections (A)-(B), above, are specified for discharges to waters impaired for Phosphorus, Nitrogen, Bacteria, or Mercury.

(3) Illicit discharge detection and elimination.

Within one (1) year of the effective date of this general permit for existing 2004 MS4 permittees and within two (2) years of the effective date of this general permit for new MS4 permittees, the permittee shall develop a written Illicit Discharge Detection and Elimination (IDDE) program designed to: provide the legal authority to prohibit and eliminate illicit discharges (as defined in Section 2 except for those discharges noted in the Section 3(a)(2) of this permit) to the MS4; find the source of any illicit discharges; eliminate those illicit discharges; and ensure ongoing screening and tracking to prevent and/or eliminate future illicit discharges. Failure to implement all elements of the IDDE program to the MEP constitutes a violation of this permit.

(A) IDDE Program Elements

- (i) The permittee shall, at a minimum, implement the IDDE program elements in this section and the IDDE protocol in Appendix B within the Urbanized Area and those catchment areas of the MS4 with either Directly Connected Impervious Area (DCIA) of greater than 11% (as identified on maps available at www.ct.gov/deep/municipalstormwater) or which discharge to impaired waters (“priority” areas). The permittee is encouraged to develop a prioritizing strategy to identify areas outside these identified areas to further implement these IDDE measures. This prioritizing strategy should utilize the prioritizing elements included in Section (A)(7)(c) of Appendix B.
- (ii) Illicit discharges to the MS4 by any person are prohibited, and any such discharges are not authorized by the general permit, are unlawful, and remain unlawful until they are eliminated. The permittee shall prohibit all illicit discharges from entering its MS4. Upon detection, the permittee shall eliminate illicit discharges as soon as possible and require the immediate cessation of such discharges upon confirmation of responsible parties in accordance with its enforceable legal authorities established pursuant to subsection (B) below. Where elimination of an illicit discharge within sixty (60) days of its confirmation is not possible, the permittee shall establish a schedule for its elimination not to exceed 180 days (six (6) months). The permittee shall immediately commence actions necessary for elimination. The permittee shall diligently pursue elimination of all illicit discharges. In the interim, the permittee shall take all reasonable and prudent measures to minimize the discharge of pollutants to its MS4.
- (iii) The permittee shall develop a program for citizen reporting of illicit discharges. This may include maintaining a website, email list or mailing program that provides clear instructions for the public describing how citizens can submit an illicit discharge report. The reporting program shall provide an email address and/or a phone number or other means for submissions. The permittee shall affirmatively investigate and eliminate any illicit discharges reported to it by any citizen or organization, provided that such report incorporates at least a time and location of an observed discharge. The permittee shall commence inspection of such a reported outfall or manhole promptly after receiving such a report, and incorporate those reported outfalls into its IDDE program subject to all provisions

of this subsection (3) and of Appendix B. All citizen reports and the responds to those reports shall be included in the Annual Report.

(iv) The permittee shall implement outfall screening and an illicit discharge detection protocol pursuant to **Appendix B** to identify, prioritize, and investigate separate storm sewer catchments for suspected illicit discharges of pollutants.

(v) The permittee shall maintain a record of illicit discharge abatement activities including, at a minimum: location (identified with an address or latitude and longitude), description, date(s) of inspection, sampling data (if applicable), action(s) taken, date of removal or repair and responsible party(ies). This information shall be included in the permittee's Annual Report pursuant to the Section 6(j) of this permit.

(vi) Timelines – permittees shall implement IDDE program elements in accordance with the schedules included in this section and in Appendix B.

(B) Establish the necessary and enforceable legal authority by statute, ordinance, rules and regulations, permit, easement, contract, order or any other means, to eliminate illicit discharges.

(i) The legal authority shall:

- a. prohibit illicit discharges to its storm sewer system and require removal of such discharges consistent with subsection (3)(A), above; and
- b. control the discharge of spills and prohibit the dumping or disposal of materials including, but not limited to, residential, industrial and commercial wastes, trash, used motor vehicle fluids, pesticides, fertilizers, food preparation waste, leaf litter, grass clippings, and animal wastes into its MS4; and
- c. authorize fines or penalties and/or recoup costs incurred by the permittee from anyone creating an illicit discharge or spilling or dumping as specified in subsection (3)(A), above. For state and federal institutions, where this provision may conflict with existing rules, regulations, policies, chain of command or other circumstances, alternate provisions for enforcement may be utilized.
- d. provide any additional legal authorities specified in Section (A)(7)(a) of Appendix B.

(ii) Existing 2004 MS4 permittees must establish and implement this legal authority within one year of the effective date of this permit.

(iii) New MS4 permittees must establish and implement this legal authority on or before two (2) years of the effective date of this permit.

(C) Develop a list (spreadsheet or database) and map or series of maps at a minimum scale of 1"=2000' and maximum scale of 1"=100' showing all stormwater discharges from a pipe or conduit located within and owned or operated by the municipality or institution

and all interconnections with other MS4s. The map(s) should, if possible, be developed in a GIS format.

- (i) The list and map(s) shall include for each discharge:
 - a. Type, material, size, and location (identified with a latitude and longitude) of conveyance, outfall or channelized flow (e.g. 24" concrete pipe);
 - b. the name, water body ID and Surface Water Quality Classification of the immediate surface waterbody or wetland to which the stormwater runoff discharges;
 - c. if the outfall does not discharge directly to a named waterbody, the name and water body ID of the nearest named waterbody to which the outfall eventually discharges;
 - d. the name of the watershed, including the subregional drainage basin number (available from CT ECO at www.cteco.uconn.edu) in which the discharge is located; and
 - e. the spreadsheet or database should, if possible, be prepared in a format compatible with Microsoft Excel.
- (ii) For existing 2004 MS4 permittees, this list and mapping must be completed within two (2) years of the effective date of this permit.
- (iii) For new MS4 permittees, this list and mapping must commence upon the effective date of this permit and be completed within three (3) years from the effective date of this permit. The entirety of the municipal or institutional MS4 shall be mapped by the expiration date of this permit.

(D) For waters for which **Phosphorus**, **Nitrogen**, or **Bacteria** is a Stormwater Pollutant of Concern:

- (i) To address septic system failures, the IDDE program shall give highest priority for the IDDE program in areas with the highest potential to discharge bacteria, phosphorus, and nitrogen to the MS4. Such areas shall be identified based on assessment of the following criteria: historic on-site sanitary system failures, proximity to bacteria impaired waters, low infiltrative soils, and shallow groundwater. Consultation with local or state health officials is strongly encouraged. The Annual Report shall include a summary of the program, the number of areas identified with failing systems, actions taken by the permittee to respond to and address the failures, and the anticipated pollutant reduction.

(E) No requirements in addition to those specified in subsections (A) - (C) above exist for discharges to waters for which **Mercury** is a Stormwater Pollutant of Concern.

(4) Construction Site Stormwater Runoff Control

The permittee shall implement and enforce a program to control stormwater discharges (to its MS4) associated with land disturbance or development (including re-development)

activities from sites (as defined in the Department's General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities) with one acre or more of soil disturbance, whether considered individually or collectively as part of a larger common plan. Such program shall include the following elements:

(A) Legal Authority

- (i) The permittee shall establish an ordinance, bylaw, regulation, standard condition of approval or other appropriate legal authority that requires:
 - a. developers, construction site operators, or contractors to maintain consistency with the 2002 Guidelines for Soil Erosion and Sedimentation Control, as amended, the Connecticut Stormwater Quality Manual, and all stormwater discharge permits issued by the DEEP within the municipal or institutional boundary pursuant to CGS 22a-430 and 22a-430b;
 - b. the implementation of additional measures to protect/improve water quality (in addition to the above requirements) as deemed necessary by the municipality or institution;
 - c. the permittee to carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with municipal regulations, ordinances or programs or institutional requirements related to the management of the permittee's MS4. Specifically, inspections shall be conducted, where allowed, to inventory the number of privately-owned retention ponds, detention ponds and other stormwater basins that discharge to or receive drainage from the permittee's MS4;
 - d. the owner of a site seeking development approval from the permittee to provide and comply with a long term maintenance plan and schedule to ensure the performance and pollutant removal efficiency of privately-owned retention ponds, detention ponds and other stormwater basins that discharge to or receive discharge from the permittee's MS4 including short-term and long-term inspection and maintenance measures to be implemented by the private owner; and
 - e. the permittee to control through interagency or inter-jurisdictional agreements, the contribution of pollutants between the permittee's MS4 and MS4s owned or operated by others.
- (ii) For existing 2004 MS4 permittees, within two (2) year from the start of the permittee's first fiscal year that begins after the effective date of this permit, the permittee shall implement, upgrade (if necessary) and enforce its land use regulations to meet the requirements of subsections 4(A)(i)a. – e. above.
- (iii) For new MS4 permittees, within three (3) years from the start of the permittee's first fiscal year that begins after the effective date of this permit, the permittee shall implement, upgrade (if necessary) and enforce its land use regulations (for municipalities) or its construction requirements (for institutions) to meet the requirements of Sections 4(A)(i)a. – e. above.

(B) Interdepartmental Coordination

- (i) The permittee will develop and implement a plan outlining how all municipal or institutional departments and boards with jurisdiction over the review, permitting, or approval of land disturbance and development projects within the MS4 will coordinate their functions with one another.
- (ii) All municipalities and institutions shall implement this measure upon the effective date of this permit.

(C) Site Review and Inspection

- (i) The permittee will conduct site plan reviews that incorporate consideration of stormwater controls or management practices to prevent or minimize impacts to water quality.
- (ii) The permittee will conduct site inspection(s) and enforcement to assess the adequacy of the installation, maintenance, operation, and repair of construction and post construction control measures.
- (iii) All municipalities and institutions shall implement this measure upon the effective date of this permit.

(D) Public Involvement

- (i) The permittee will implement a procedure for receipt and consideration of information submitted by the public concerning proposed and ongoing land disturbance and development activities.
- (ii) All municipalities and institutions shall implement this procedure upon the effective date of this permit.

(E) State Permit Notification

- (i) The permittee will implement a procedure for notifying developers (working in a municipality) or contractors (working for a municipality or an institution) of their potential obligation to obtain authorization under the DEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities ("construction general permit") if their development or redevelopment project disturbs one or more acres of land, either individually or collectively, as part of a larger common plan, and results in a point source discharge to the surface waters of the state directly or through the permittee's MS4. The notification shall include a provision informing the developer/contractor of their obligation to provide a copy of the Storm Water Pollution Control Plan (required by the construction general permit) to the permittee upon request.
- (ii) All municipalities and institutions shall implement this procedure upon the effective date of this permit.

- (F) For construction discharges to waters for which **Phosphorus, Nitrogen, Bacteria, or Mercury** is a Stormwater Pollutant of Concern no additional measures are included in this section except as may be required by Sections 3(b)(7) or 6(k).
- (5) Post-construction stormwater management in new development or redevelopment

- (A) Legal Authority

- (i) The permittee shall establish an ordinance, bylaw, regulation, standard condition of approval or other appropriate legal authority that requires, to the MEP, that a developer or contractor seeking the permittee's approval shall consider the use of low impact development ("LID") and runoff reduction site planning and development practices prior to the consideration of other practices in the permittee's land use regulations, guidance or construction project requirements to meet or exceed those LID and runoff reduction practices identified in the Stormwater Quality Manual. Such legal authority shall include the following standards: 1) for redevelopment of sites that are currently developed with Directly Connected Impervious Area (DCIA) of forty percent or more, retain on-site half the water quality volume for the site, or 2) for new development and redevelopment of sites with less than forty percent DCIA, retain the water quality volume for the site, or 3) an alternate retention/treatment standard as outlined in subsections 5(B)(i)-(ii) below. All permittees shall identify and, where appropriate, reduce or eliminate existing local regulatory barriers to implementing LID and runoff reduction practices to the MEP. These may include site planning requirements, zoning regulations, street design regulations, or infrastructure specifications that address minimal dimensional criteria for the creation of roadways, parking lots, and other DCIA. If such barriers cannot be eliminated within the timeframe dictated by subsections 5(A)(ii) and (iii), below, the permittee shall provide in the Annual Report(s) required by Section 6(j) a justification and a revised schedule for implementation.

In establishing the legal authority, the permittee shall consider the following watershed protection elements to manage the impacts of stormwater on receiving waters, except where noted:

- a. Minimize the amount of impervious surfaces (roads, parking lots, roofs, etc.) within each municipality by minimizing the creation, extension, and widening of parking lots, roads, and associated development and encourage the use of Low Impact Development or green infrastructure practices.
 - b. Preserve, protect, create and restore ecologically sensitive areas that provide water quality benefits and serve critical watershed functions. These areas may include, but are not limited to; riparian corridors, headwaters, floodplains and wetlands.
 - c. Implement stormwater management practices that prevent or reduce thermal impacts to streams, including requiring vegetated buffers along waterways, and disconnecting discharges to surface waters from impervious surfaces such as parking lots.

- d. Seek to avoid or prevent hydromodification of streams and other water bodies caused by development, including roads, highways, and bridges.
 - e. Implement standards to protect trees, and other vegetation with important evapotranspirative qualities.
 - f. Implement policies to protect native soils, prevent topsoil stripping, and prevent compaction of soils.
- (ii) For existing 2004 MS4 permittees, the permittee shall consider the elements of this section during regular reviews and implement this requirement no later than four (4) years after the effective date of this permit.
 - (iii) For new permittees, the permittee shall consider the elements of this section during regular reviews and implement this requirement no later than five (5) years after the effective date of this permit.

(B) Runoff Reduction/Low Impact Development (“LID”) Measures

Pursuant to the requirements of subsection 5(A)(i) above, the permittee shall require the party responsible (i.e. a developer within a municipal boundary or a developer/contractor with the institution) for development and redevelopment projects within its MS4 to:

- (i) For development or redevelopment of sites that are currently developed with Directly Connected Impervious Area (DCIA) of forty percent or more, retain on-site half the water quality volume for the site. In cases where this entire amount cannot be retained, the permittee shall require the responsible party to retain runoff volume to the maximum extent achievable using control measures that are technologically available and economically practicable and achievable in light of best industry practice. In such cases, additional stormwater treatment, to the maximum extent achievable using control measures that are technologically available and economically practicable and achievable in light of best industry practice, shall be required for sediment, floatables and nutrients for the volume above that which can be retained up to the water quality volume. In cases where the runoff reduction requirement cannot be met, the developer/contractor shall submit, for the permittee’s review, a report detailing factors limiting the capability of achieving this goal. In such cases, the permittee shall approve a stormwater mitigation project on another site proposed by the developer/contractor or approve a fee to be deposited into a dedicated account of the permittee for use by the permittee to fund in whole or in part the retrofit of one or more existing DCIA. Unless such fee is established by DEEP, the fee proposed by the developer/contractor should be set in amount approved by the permittee as calculated based on an estimate of the cost necessary to implement the retrofit to achieve a similar amount of runoff reduction to the amount by which the actual amount of runoff reduced fails to achieve the requirement to retain the water quality volume for the site. The report shall include: the measures taken to maximize runoff reduction practices on the site; the reasons why those practices constitute the maximum extent achievable; the alternative retention volume; and a description of the measures used to provide additional stormwater treatment above

the alternate volume up to the water quality volume. In the case of linear redevelopment projects (e.g. roadway reconstruction or widening) for the developed portion of the right of way: (1) for projects that may be unable to comply with the full retention standard, the alternate retention and treatment provisions may also be applied as specified above, or (2) for projects that will not increase the DCIA within a given watershed, the developer/contractor shall implement the additional stormwater treatment measures referenced above, but will not be required to retain half of the water quality volume.

- (ii) For all new development and for redevelopment of sites with less than forty percent DCIA, retain the water quality volume for the site. If there are site constraints that would prevent retention of this volume on-site (e.g. brownfields, capped landfills, bedrock, elevated groundwater, etc.), documentation must be submitted, for the permittee's review and written approval, which: explains the site limitations; provides a description of the runoff reduction practices implemented; provides an explanation of why this constitutes the maximum extent achievable; offers an alternative retention volume; and provides a description of the measures used to provide additional stormwater treatment for sediment, floatables and nutrients above the alternate volume up to the water quality volume. In such cases, the permittee shall approve a stormwater mitigation project on another site proposed by the developer/contractor or approve a fee to be deposited into a dedicated account of the permittee for use by the permittee to fund in whole or in part the retrofit of one or more existing DCIA. Unless such fee is established by DEEP, the fee proposed by the developer/contractor should be set in amount approved by the permittee as calculated based on an estimate of the cost necessary to implement the retrofit to achieve a similar amount of runoff reduction to the amount by which the actual amount of runoff reduced fails to achieve the requirement to retain the water quality volume for the site. Any such treatment shall otherwise be designed, installed and maintained consistent with the Stormwater Quality Manual. In the case of linear projects that do not involve impervious surfaces (e.g. electrical transmission rights-of-way or natural gas pipelines), retention of the water quality volume is not required as long as the post-development runoff characteristics do not differ significantly from pre-development conditions.
- (iii) Consider the limitation of turf areas to those areas necessary to construct buildings, utilities, stormwater management measures, parking, access ways, reasonable lawn areas and contouring necessary to prevent future site erosion,
- (iv) Maintain consistency with the Connecticut Stormwater Quality Manual, or if inconsistent, provide an explanation of why consistency is not feasible or practicable and information that the proposed plan of development is adequately protective.
- (v) In areas served by on-site sewage disposal (septic) systems, the permittee should coordinate with the state or local health official, as appropriate, to confirm that any infiltration measures are appropriately sized, located and constructed in a manner consistent with the Connecticut Department of Public Health's *Technical Standards for Subsurface Sewage Disposal Systems*, Section 19-13-B100A of the Regulations of Connecticut State Agencies and/or DEEP requirements for on-site sewage disposal systems.

- (vi) For existing 2004 MS4 permittees, the permittee shall implement this requirement within two (2) years after the effective date of this permit.
- (vii) For new MS4 permittees, the permittee shall implement this requirement within three (3) years from the start of the permittee's first fiscal year that begins after the effective date of this permit.

(C) Directly Connected Impervious Area

Using mapping provided by the Commissioner (available at www.ct.gov/deep/municipalstormwater) or other equivalent source, the permittee shall calculate the Directly Connected Impervious Area (DCIA) that contributes stormwater runoff to each of its MS4 outfalls (i.e. catchment area) within three (3) years of the effective date of this general permit. The DCIA calculation shall be based upon the criteria available through the DEEP stormwater webpage (www.ct.gov/deep/municipalstormwater) and the precise methodology and assumptions shall be described in the permittee's Plan and initial annual report. Each annual report shall document the progress of this task until its completion. The Permittee shall revise its DCIA estimate as development, redevelopment, or retrofit projects effectively add or remove DCIA to its MS4.

(D) Long Term Maintenance

- (i) The permittee shall implement a maintenance plan for ensuring the long-term effectiveness of retention or detention ponds located in the Urbanized Area and those catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters and which discharge to, or receive stormwater from, its MS4. This shall include such ponds that are owned by the permittee and all privately-owned ponds where the permittee maintains an easement or other legal authority pursuant to Section 6(a)(4)(A)(i) of this permit. At a minimum, the permittee shall annually inspect all such retention or detention ponds and remove accumulated sediment to restore full solids capture design capacity where found to be in excess of 50% design capacity.
- (ii) The permittee shall implement a maintenance plan for ensuring the long-term effectiveness of stormwater treatment structures or measures (such as swirl concentrators, oil/grit separators, water quality wetlands or swales, etc.) installed within the Urbanized Area and those catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters. This shall include structures that are owned by the permittee or those for which the permittee maintains an easement or other legal authority pursuant to Section 6(a)(4)(A)(i) of this permit. At a minimum, the permittee shall annually inspect all such structures/measures and remove accumulated pollutants (such as sediment, oils, leaves, litter, etc.) to restore full solids capture design capacity where found to be in excess of 50% design capacity.
- (iii) For existing 2004 MS4 permittees, the permittee shall implement this requirement within two (2) years of the effective date of this permit.
- (iv) For new MS4 permittees, the permittee shall implement this requirement within three (3) years after the effective date of this permit.

(E) Additional measures for discharges to impaired waters (with or without a TMDL)

- (i) For waters for which **Nitrogen, Phosphorus** or **Bacteria** is a Stormwater Pollutant of Concern:

To address erosion and sediment problems noted during the course of conducting the inspections required by subsection D above and identified by other means, the permittee shall develop, fund, implement, and prioritize these problems under the Retrofit program specified in Section 6(a)(6)(B) to correct the problem(s) in a specific timeframe and to establish short term and long term maintenance. Each annual report shall include which problem areas were retrofitted, the cost of the retrofit, and the anticipated pollutant reduction.

- (ii) No requirements in addition to those specified in subsections (A)-(D) above exist for discharges to waters for which **Mercury** is a Stormwater Pollutant of Concern.

(6) Pollution Prevention/Good Housekeeping

The permittee shall implement an operations and maintenance program for permittee-owned or -operated MS4s that has a goal of preventing or reducing pollutant runoff and protecting water quality from all permittee-owned or -operated MS4s.

(A) Employee Training

The existing 2004 MS4 permittees shall continue a formal employee training program to increase awareness of water quality related issues in management of its MS4. New MS4 permittees shall develop this program within two (2) years of the effective date of this general permit. In addition to providing key staff with topical training regarding standard operating procedures and other activities necessary to comply with the provisions of this permit, the training program shall include establishing an awareness of the general goals and objectives of the Plan; identification and reporting of illicit discharges and improper disposal; and spill response protocols and respective responsibilities of involved personnel.

(B) Infrastructure Repair, Rehabilitation and Retrofit

- (i) The permittee shall repair and rehabilitate its MS4 infrastructure in a timely manner to reduce or eliminate the discharge of pollutants from its MS4 to receiving waters. Priority for repair and rehabilitation shall be based on the following:
- a. For existing 2004 MS4 permittees, the permittee shall utilize the information developed pursuant to Section 6(a)(6)(A)(v) of the 2004 MS4 permit to fund and implement a program for repairing, retrofitting or upgrading the conveyances, structures and outfalls of the MS4. This program shall be updated based on new information on outfalls discharging pollutants, impaired waters, inspection observations or observations made during outfall mapping pursuant to Section 6(a)(3)(C) of this permit.
 - b. For new MS4 permittees, the permittee shall, within the first three (3) years following the effective date of this general permit, develop a program to

identify conveyances, structures and outfalls in need of repairing, retrofitting or upgrading utilizing new and existing information on outfalls discharging pollutants, impaired waters, inspection observations or observations made during outfall mapping pursuant to Section 6(a)(3)(C) of this permit.

(ii) Retrofit Program

The goal of the retrofit program is to “disconnect” existing Directly Connected Impervious Areas (DCIA). An area of DCIA is considered disconnected when the appropriate portion of the Water Quality Volume has been retained in accordance with the requirements of Section 6(a)(5)(B)(i) or (ii) of this general permit. This may be accomplished through retrofits or redevelopment projects (public or private) that utilize Low Impact Development (LID) and runoff reduction measures or any other means by which stormwater is infiltrated into the ground or reused for other purposes without a surface or storm sewer discharge. A redevelopment project, as that term is used here and in Section 6(a)(5)(B)(i) and (ii), is one that modifies an existing developed site for the purpose of enhancing, expanding or otherwise modifying its function or purpose. A retrofit project is one that modifies an existing developed site for the primary purpose of disconnecting DCIA. The DCIA calculation performed pursuant to Section 6(a)(5)(C) shall serve as the baseline for the retrofit program required in this section.

a. DCIA Disconnection Tracking

Beginning on the effective date of this general permit, the permittee shall track on an annual basis the total acreage of DCIA that is disconnected as a result of redevelopment or retrofit projects within the MS4. Tracking the disconnection of DCIA means documenting within a given redevelopment or retrofit project the amount of existing DCIA that is modified such that it is disconnected. This tracking may include disconnections of DCIA from redevelopment or retrofit projects implemented as early as five (5) years prior to the effective date of this permit. Any redevelopment or retrofit of an existing developed site, whether public (municipal, state or federal) or private (residential, commercial or industrial) shall be included in this tracking.

Tracking the disconnection of DCIA does not apply for sites that were previously undeveloped as there were no existing impervious surfaces on those sites. The total amount of DCIA that has been disconnected during a given year shall be reported in that year’s Annual Report.

b. Retrofit Planning

On or before the end of third year after the effective date of this general permit, the permittee shall develop a plan to implement retrofit projects to meet the goals of this section. The permittee shall identify and prioritize sites that may be suitable for retrofit. Considerations for prioritizing retrofit projects may include outfall catchment areas that discharge to impaired waters, areas within the Urbanized Area of the MS4 or catchment areas with greater than eleven percent (11%) DCIA. The permittee shall select from the list of prioritized projects those that it will implement to meet the goals in subparagraph (c) below. In the Annual Report for the third year of this general permit, the

permittee shall report on its identification and prioritization process, the selection of the projects to be implemented, the rationale for the selection of those projects and the total DCIA to be disconnected upon implementation of the projects.

c. Retrofit Schedule

By the end of this permit term, the permittee shall commence the implementation of the retrofit projects identified in subparagraph (b), above, with a goal of disconnecting one percent (1%) per year of the permittee's DCIA for the fourth and fifth years of this general permit, or a total of 2%, to the MEP. The two percent (2%) goal may be achieved by compiling the total disconnected DCIA tracked pursuant to subparagraph (a), above, or the retrofit projects designated in subparagraph (b), above, or a combination of the two.

If the two percent (2%) goal will not be met, the permittee shall include in the Annual Report a discussion of what percentage of DCIA will actually be disconnected and why the remainder of the two percent (2%) goal could not be achieved based on the MEP standard outlined in Section 5(b). The permittee shall also provide in the Annual Report for the fifth year of this permit for continuation of the retrofit program and continue such program with a goal to disconnect one percent (1%) of DCIA in each year thereafter.

(C) MS4 Property and Operations Maintenance

Permittee-owned or -operated properties, parks, and other facilities that are owned, operated, or otherwise the legal responsibility of the permittee shall be maintained so as to minimize the discharge of pollutants to its MS4. Such maintenance shall include, but not be limited to:

(i) Parks and open space

The permittee shall optimize the application of fertilizers by municipal employees, institutional staff, or private contractors on lands and easements for which it is responsible for maintenance. Optimization practices considered may include conducting soil testing and analysis to determine soil phosphorus levels, the reduction or elimination of fertilizers, reduction of usage by adhering to the manufacturers' instructions, and use of alternative fertilizers forms (i.e. products with reduced, slow-releasing, or insoluble phosphorus compositions). Additional optimization practices to be considered include: proper storage and application practices (i.e. avoid impervious surfaces), application schedule (i.e. appropriate season or month) and timing (i.e. coordinated with climatic conditions to minimize runoff potential); develop and implement standard operating practices for the handling, storage, application, and disposal of pesticides and herbicides in compliance with applicable state and federal laws; evaluate lawn maintenance and landscaping activities to promote water quality (protective practices include reduced mowing frequencies, proper disposal of lawn clippings, and use of alternative landscaping materials like drought resistant and native plantings); and establish procedures for management of trash containers at parks (scheduled cleanings; sufficient number).

The permittee shall establish practices for the proper disposal of grass clippings and leaves at permittee-owned lands. Clippings shall be composted or otherwise appropriately disposed. Clippings should not enter the MS4 system or waters of the state.

(ii) Pet waste management

The permittee shall identify locations within its community/institution where inappropriate pet waste management practices are immediately apparent and pose a threat to receiving water quality due to proximity and potential for direct conveyance of waste to its storm system and waters. In such areas, the permittee shall, implement targeted management efforts such as public education and enforcement (e.g. increased patrol for violators). In permittee-owned recreational areas where dog walking is allowed, the permittee shall install educational signage, pet waste baggies, and disposal receptacles (or require carry-out). The permittee shall document its efforts in its annual reports. The permittee should consider including information regarding the scope and extent of its education, compliance, and enforcement efforts (including the number of violations pursued and fines levied or other enforcement taken).

(iii) Waterfowl management

Identify lands where waterfowl congregate and feeding by the public or institutional staff/residents occurs. To raise awareness regarding the water quality impacts, the permittee shall install signage or use other targeted techniques to educate the public about the detrimental impacts of feeding waterfowl (including the resulting feces deposition) and discourage such feeding practices. The permittee shall also implement practices that discourage the undesirable congregation of waterfowl in these areas, or otherwise isolate the direct drainage from these areas away from its storm system and waters.

(iv) Buildings and facilities (schools under the jurisdiction of the permittee, town offices, police and fire stations, pools, parking garages and other permittee-owned or operated buildings or utilities)

Evaluate the use, storage, and disposal of both petroleum and non-petroleum products; ensure, through employee training, that those responsible for handling these products know proper procedures; ensure that Spill Prevention Plans are in place, if applicable, and coordinate with the fire department as necessary; develop management procedures for dumpsters and other waste management equipment; sweep parking lots and keep areas surrounding the facilities clean to minimize runoff of pollutants; and ensure that all interior building floor drains are not connected to the MS4. This permit does not authorize such discharges; wastewaters from interior floor drains must be appropriately permitted.

(v) Vehicles and Equipment

Establish procedures for the storage of permittee-owned or -operated vehicles; require vehicles with fluid leaks to be stored indoors or in contained areas until repaired; evaluate fueling areas owned by the permittee and used by permittee-owned or -operated vehicles and if possible, place fueling areas under cover in

order to minimize exposure; establish procedures to ensure that vehicle wash waters are not discharged to the municipal storm sewer system or to surface waters. This permit does not authorize such discharges; wastewaters from interior floor drains must be appropriately permitted.

(vi) Leaf Management

The permittee shall establish and implement procedures to minimize or prevent the deposition of leaves in catch basins, streets, parking lots, driveways, sidewalks or other paved surfaces that discharge to the MS4. Such procedures shall also apply to leaves collected by the permittee.

(D) Street, Parking & MS4 Maintenance

The permittee shall implement a program to provide for regular inspection and maintenance of permittee-owned or -operated streets, parking areas and other MS4 infrastructure.

(i) Sweeping

- a. Establish and implement procedures for sweeping permittee-owned or -operated streets and parking lots. All streets and parking lots within the Urbanized Area of the MS4, and outside the Urbanized Area within the catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters, shall be inspected, swept and/or cleaned (as necessary) with a minimum frequency of once per year in the spring following the cessation of winter maintenance activities (i.e. sanding, deicing, etc.). The procedures shall also include more frequent inspections, cleaning and/or sweeping of targeted areas determined by the permittee to have increased pollutant potential based on the presence of active construction activity or other potential pollutant sources. The permittee shall identify such potential pollutant sources based upon surface inspections, catch basin cleaning or inspection results, land use, winter road deicing and/or sand application, impaired or TMDL waters or other relevant factors as determined by the permittee. If wet dust suppression is conducted, the use of water should be minimized such that a discharge of excess water to surface waters and/or the storm sewer system does not occur.

For streets and parking lots outside the Urbanized Area and outside the catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters, including any rural uncurbed streets and parking lots with no catch basins, the permittee shall either meet the minimum frequencies above, or develop and implement an inspection, documentation and targeted sweeping and/or cleaning plan within one (1) year of the effective date of the general permit, and submit such plan with its year one Annual Report. For new and redeveloped municipal parking lots, evaluate options from reducing stormwater runoff to surface waters and/or the storm sewer system by the installing pervious pavements and/or other measures to promote sheet flow of stormwater.

- b. Ensure the proper disposal of street sweepings in accordance with Department policies, guidance and regulations. Sweepings shall not be discharged back into the storm drain system and/or surface waters.
- c. In its Annual Report, the permittee shall document results of its sweeping program including, at a minimum: a summary of inspection results, curb miles swept, dates of cleaning, volume or mass of material collected, and method(s) of reuse or disposal. The permittee shall also include documentation of any alternate sweeping plan for rural uncurbed streets and any runoff reduction measures implemented.

(ii) Catch Basin Cleaning

The Permittee shall conduct routine cleaning of all catch basins. The Permittee shall track catch basin inspection observations. Utilizing information compiled through its inventory of catch basins, operational staff and public complaints, the Permittee shall optimize routine cleaning frequencies for particular structures or catchment areas as follows to maintain acceptable sediment removal efficiencies:

- a. Inspect all permittee-owned catch basins within the Urbanized Area of the MS4 and outside the Urbanized Area within the catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters at least once by the end of the third year following the effective date of this general permit. Catch basins outside the Urbanized Area and outside the catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters shall be inspected by the end of the fifth year following the effective date of this general permit.
- b. Prioritize inspection and maintenance for permittee-owned catch basins located near impaired waters and construction activities (roadway construction, residential, commercial, or industrial development or redevelopment). Clean catch basins in such areas more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings.
- c. Establish a schedule that the frequency of routine cleaning will ensure that no catch basin at any time will be more than fifty (50) percent full.
- d. If a catch basin sump is more than fifty (50) percent full during two consecutive routine inspections/cleaning events, the permittee shall document that finding, investigate the contributing drainage area for sources of excessive sediment loading, and to the maximum extent practicable, abate contributing sources. The permittee shall describe any actions taken in its Annual Report.
- e. For the purposes of this subsection, an excessive sediment or debris loading is a catch basin sump more than fifty (50) percent full. A catch basin sump is more than 50 percent full if the contents within the sump exceed one half the distance between the bottom interior of the catch basin to the invert of the deepest outlet of the catch basin.

- f. The permittee shall document in the Plan and in the first Annual Report its plan for optimizing catch basin cleaning, inspection plans, or its schedule for gathering information to develop the optimization plan. Documentation shall include metrics and other information used to reach the determination that the established plan for cleaning and maintenance is optimal for the MS4. The permittee shall keep a log of catch basins cleaned or inspected.
- g. The permittee shall report in each Annual Report the total number of catch basins, number inspected, number cleaned, the total volume or mass of material removed from all catch basins and, if practicable, the volume or mass of material removed from each catch basin draining to water quality limited waters.

(E) Snow Management Practices

(i) Deicing Material Management

Develop and implement standard operating practices for the use, handling, storage, application, and disposal of deicing products such as salt and sand to minimize exposure to stormwater; consider means to minimize the use and optimize the application of chloride-based or other salts or deicing product (while maintaining public safety) and consider opportunities for use of alternative materials; for any exterior containers of liquid deicing materials installed after the effective date of this permit, provide secondary containment of at least 110% of the largest container or 10% of the total volume of all containers, whichever is larger, without overflow from the containment area.

(ii) Snow and Ice Control Practices

The permittee shall implement and refine its standard operating practices regarding its snow and ice control to minimize the discharge of sand, anti-icing or de-icing chemicals and other pollutants (while maintaining public safety). The permittee shall establish goals for the optimization of sand and/or chemical application rates through the use, where practicable, of automated application equipment (e.g. zero-velocity spreaders), anti-icing and pre-wetting techniques, implementation of pavement management systems, and alternate chemicals. The permittee shall maintain records of the application of sand, anti-icing and/or de-icing chemicals to document the reduction of chemicals to meet established goals. The permittee shall ensure the proper training for deicing applications for municipal employees, institutional staff, or private contractors on lands and easements for which it is responsible for maintenance.

The permittee shall manage and dispose of snow accumulations in accordance with DEEP's Best Management Practices for Disposal of Snow Accumulations from Roadways and Parking Lots, revised 2/4/11 and as amended (see link at: www.ct.gov/deep/stormwater). In its Annual Report, the permittee shall document results of its snow removal program including, at a minimum: the type of staff training conducted on application methods and equipment, type(s) of deicing materials used; lane-miles treated; total amount of each deicing material used; type(s) of deicing equipment used; any changes in deicing practices (and the reasons for the change); and snow disposal methods.

(F) Interconnected MS4s

As part of interagency agreements established pursuant to Section 6(c)(3) of this permit, the Permittee shall coordinate with operators of interconnected MS4s (such as neighboring municipalities, institutions and DOT) regarding the contribution of potential pollutants from the storm sewer systems, contributing land use areas and stormwater control measures in the respective MS4s. This same coordination shall be conducted regarding operation and maintenance procedures utilized in the respective systems.

(G) Sources contributing pollutants to the MS4

The permittee shall develop and implement a program to control the contribution of pollutants to its MS4 from commercial, industrial, municipal, institutional or other facilities, not otherwise authorized by permit issued pursuant to Sections 22a-430 or 22a-430b of the Connecticut General Statutes.

(H) Additional measures for discharges to impaired waters (with or without a TMDL)

- (i) For waters for which **Nitrogen** or **Phosphorus** is a Stormwater Pollutant of Concern:

On Permittee-owned or -operated lands, implement a turf management practices and procedures policy which includes, but is not limited to, procedures for proper fertilizer application and the planting of native plant materials to lessen the amount of turf area requiring mowing and the application of chemicals. Each Annual Report shall discuss the actions taken to implement this policy with an estimate of fertilizer and turf reduction.

- (ii) For waters for which **Bacteria** is a Stormwater Pollutant of Concern:

On Permittee-owned or -operated lands with a high potential to contribute bacteria (such as dog parks, parks with open water, sites with failing septic systems), the permittee shall develop, fund, implement, and prioritize a retrofit or source management program to correct the problem(s) within a specific timeframe. Each Annual Report shall identify problem areas for which a retrofit or source management program were developed, the location of the closest outfall monitored in accordance with Section 6(i), the cost of such retrofit or program, and the anticipated pollutant reduction.

On Permittee-owned or -operated lands, prohibit the feeding of geese or waterfowl and implement a program to manage geese and waterfowl populations. Each Annual Report shall discuss the actions taken to implement this program.

- (iii) No additional requirements in addition to those specified in subsections (A)-(C) above exist for discharges to waters for which **Mercury** is a Stormwater Pollutant of Concern.

(b) Sharing Responsibility

(1) Qualifying Local Program

The permittee may satisfy the requirement to implement a BMP for a Minimum Control Measure by having a third party implement the BMP.

When a permittee is relying on a third party to implement one or more BMP(s), the permittee shall note that fact in the registration and Annual Report required in Section 6(j), below. If the third party fails to implement the BMP(s), the permittee remains responsible for its implementation.

(Note: For example, if a local watershed organization performs an annual “river clean-up”, this event may be used to satisfy a BMP for the Public Participation and/or the Pollution Prevention and Good Housekeeping Minimum Control Measure.)

(2) Qualifying State or Federal Program

If a BMP or Minimum Control Measure is the responsibility of a third party under another NPDES stormwater permit, the permittee is not required to include such BMP or Minimum Control Measure in its Stormwater Management Plan. The permittee shall reference this qualifying program in their Stormwater Management Plan. However, the permittee is not responsible for its implementation if the third party fails to perform. The permittee shall periodically confirm that the third party is still implementing this measure. If the third party fails to implement the measure, the Stormwater Management Plan may be modified to address the measure, if necessary.

In the case of a permitted municipal industrial activity that is covered by the General Permit for the Discharge of Stormwater Associated with Industrial Activity, the permittee may reference the activity’s Stormwater Pollution Prevention Plan to address a portion of the permittee’s Stormwater Management Plan.

(Note: For example, the permittee may reference a regional mall’s requirement to perform sweeping and catch basin cleaning under the General Permit for the Discharge of Stormwater Associated with Commercial Activity. This third party action may be used to address a portion of the permittee’s requirement under the Good Housekeeping and Pollution Prevention Minimum Control Measure.)

(3) Coordination of Permit Responsibilities

Where a portion of the separate storm sewer system within a municipality is owned or otherwise the responsibility of another municipality, institution or a state or federal agency the entities shall coordinate the development and implementation of their respective Stormwater Management Plans to address all the elements of Section 6. A description of the respective responsibilities for these elements shall be included in the Stormwater Management Plan for each municipality.

(Note: For example, a storm sewer system within a municipality may be operated and maintained by the DOT. In cases such as these, the two entities shall coordinate their Stormwater Management Plans to address the Minimum Control Measures, particularly at the interface between the two storm sewer systems.)

(4) Co-Permitting

When a municipal Regulated Small MS4s is co-located within the corporate boundary of another Regulated Small MS4, the two may, at their discretion, submit a single registration and share a single Plan as co-permittees. In such a case, the Plan shall clearly indicate which co-permittee is responsible for implementing each of the control measures and other elements of the Plan.

(Note: This provision currently applies only to the City of Groton within the Town of Groton and the Borough of Stonington within the Town of Stonington.)

(c) *Proper Operation and Maintenance*

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control, including related appurtenances, which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee when necessary to achieve compliance with this permit.

(d) *Signature Requirements*

The Plan shall be signed by the chief elected official or principal executive officer, as those terms are defined in Section 22a-430-3(b)(2) of the Regulations of Connecticut State Agencies. The Plan shall be retained by the chief elected official or principal executive officer and copies retained by MS4 officials or employees responsible for implementation of the Plan.

(e) *Plan Review Fee*

When submitting a Stormwater Management Plan as requested by the Commissioner pursuant to Section 6(f), below, the permittee shall submit a plan review fee of \$375.

(f) *Keeping Plans Current*

The permittee shall amend the Plan whenever; (1) there is a change which has the potential to cause pollution of the waters of the state; or (2) the actions required by the Plan fail to prevent pollution of the waters of the state or fail to otherwise comply with any other provision of this general permit; or (3) the Commissioner requests modification of the Plan. The amended Plan shall be completed and all actions required by such Plan shall be completed within a time period determined by the Commissioner.

The Commissioner may notify the permittee in writing at any time that the Plan does not meet one or more of the requirements of this general permit. Within thirty (30) days of such notification, unless otherwise specified by the Commissioner in writing, the permittee shall respond to the Commissioner indicating how they plan to modify the Plan to address these requirements. Within ninety (90) days of this response or within one hundred twenty (120) days of the original notification, whichever is less, unless otherwise specified by the Commissioner in writing, the permittee shall then revise the Plan, perform all actions required by the revised Plan, and shall certify to the Commissioner that the requested changes have been

made and implemented. The permittee shall provide such information as the Commissioner requires to evaluate the Plan and its implementation. If at any time the Commissioner finds that the Plan is not adequate to protect the waters of the state from pollution, the Commissioner may terminate authorization under this permit and require the permittee to submit an individual permit application.

(g) Failure to Prepare or Amend Plan

In no event shall failure to complete or update a Plan in accordance with Sections 5(b) and 6 of this general permit relieve a permittee of responsibility to implement actions required to protect the waters of the state and to comply with all conditions of this general permit.

(h) Plan Review Certification

A copy of the Plan review certification made in accordance with Section 3(b)(9) shall be maintained with the Plan.

(i) Monitoring Requirements

All permittees shall comply with the screening and monitoring requirements in this subsection.

(1) Impaired Waters Outfall Investigation and Monitoring

Regulated Small MS4s that discharge to impaired waters, as identified in Section 6(k) below, must create an inventory of all outfalls that discharge to impaired waters utilizing the list and mapping prepared pursuant to Section 6(a)(3)(C). The permittee shall then screen these outfalls for the pollutant identified as the pollutant of concern for the impairment in accordance with the following procedures. If the permittee has wet weather sampling data for an outfall pursuant to their sampling conducted under the 2004 MS4 permit or other appropriate wet weather sampling, they may use that data for their outfall screening and will not be required to screen that outfall under this general permit.

(A) Outfall Screening for Phosphorus and Nitrogen

The permittee shall screen outfalls from the MS4 identified in Section 6(a)(3)(C) that discharge to impaired waters for which phosphorus or nitrogen is the pollutant of concern. The permittee may take a sample at the outfall during any rain event that results in a discharge from the outfall in accordance with subsection (2), below. This screening shall be conducted for all such outfalls at least once during the term of this general permit in accordance with subparagraphs (i) and (ii) below.

(i) Nitrogen Screening

The permittee may use a portable nitrogen meter to take a field reading during the wet weather discharge. If the nitrogen reading exceeds the following threshold, the outfall shall be identified for follow-up investigation pursuant to subsection (D) below.

Total Nitrogen > 2.5 mg/l

(ii) Phosphorus Screening

The permittee may use a portable phosphorus meter to take a field reading during the wet weather discharge. If the phosphorus reading exceeds the following threshold, the outfall shall be identified for follow-up investigation pursuant to subsection (D) below.

Total Phosphorus > 0.3 mg/l

(B) Outfall Screening for Bacteria

The permittee shall screen outfalls from the MS4 that discharge to impaired waters for which bacteria is the pollutant of concern. The permittee may take a sample at the outfall during any rain event that results in a discharge from the outfall in accordance with subsection (2), below. The sample shall be analyzed for the following:

- E. coli and Total Coliform (col/100ml) (for discharges to Class AA, A and B surface waters)
- Fecal coliform and Enterococci (col/100ml) (for discharges to Class SA and SB surface waters)

The outfall shall be identified for follow-up investigation pursuant to subsection (D) below if any of the following conditions apply:

- E. coli >235 col/100ml for swimming areas and >410 col/100ml for all others, or
- Total Coliform >500 col/100ml, or
- Fecal coliform >31 col/100ml for Class SA and >260 col/100ml for Class SB, or
- Enterococci >104 col/100ml for swimming areas and >500 col/100ml for all others.

If the permittee can document that bacteria levels at an outfall that exceed these levels are solely the result of natural sources of bacteria, they are not required to conduct a follow-up investigation for that outfall. Natural sources may include wildlife or runoff from undeveloped wooded areas but do not include pet waste or waterfowl congregating at parks, ponds or other attractive nuisance areas.

(C) Outfall Screening for Other Pollutants of Concern

The permittee shall screen outfalls from the MS4 identified in Section 6(a)(3)(C) that discharge to impaired waters for which pollutants other than phosphorus, nitrogen or bacteria are listed as the pollutant of concern. The permittee shall take a sample at the outfall and in-stream immediately upstream or otherwise outside the influence of the outfall. The sample may be taken during any rain event that results in a discharge from the outfall in accordance with subsection (2), below. These samples shall be analyzed for turbidity. The permittee may use a field turbidity meter for these analyses. If the

outfall sample is more than 5 NTU greater than the in-stream sample, the outfall shall be identified for follow-up investigation pursuant to subsection (D) below.

(D) Follow-up Investigations

The permittee shall conduct follow-up investigations for the drainage areas associated with the outfalls identified as potentially contributing to an impairment as a result of the analyses conducted pursuant to subsections (A) – (C), above.

(i) Drainage Area Investigation

The permittee shall investigate activities within the drainage area contributing to each outfall identified for follow-up investigation pursuant to subsections (A) – (C), above. This investigation shall include factors potentially associated with the cause of the related stream impairment. Such factors may include: land use or development patterns; business or commercial activities; industrial activities; DCIA; natural contributors; potential MS4 maintenance issues; residential activities; and any other activities identified by the permittee as potentially contributing to the related impairment.

(ii) Control Measure Implementation

In each outfall drainage area identified for follow-up investigation pursuant to subsections (A) – (C), above, the permittee shall implement a BMP program focusing on the impaired waters provisions of each of the Control Measures in Section 6(a) of this general permit and on the findings of the drainage area investigation in subparagraph (i), above.

(iii) Prioritized Outfall Monitoring

Once outfall screening has been completed for at least half of the outfalls identified pursuant to this section, the permittee shall utilize the screening results to select six (6) of the highest contributors of any of the pollutants of concern. These six outfalls shall be sampled annually for the appropriate pollutant of concern in accordance with the schedule in subsection (E), below. If more than one pollutant of concern is identified for any monitored outfall (i.e. more than one impairment), all of these pollutants shall be monitored. If fewer than six outfalls were identified for follow-up investigation, all of these outfalls shall be monitored, but no more than six.

(E) Schedule

(i) Impaired Waters Discharge Mapping

Inventory and mapping of discharges to impaired waters prepared pursuant to this section shall be completed within two (2) years from the effective date of this general permit for existing 2004 MS4 permittees and within three (3) years from the effective date of this general permit for new MS4 permittees.

(ii) Outfall Screening

Outfall screening pursuant to subsections (A) – (C) shall begin within one (1) year of the effective date of this general permit for existing 2004 MS4 permittees and two (2) years for new MS4 permittees. At least fifty percent (50%) of these outfalls shall be screened no later than the end of the third year following the effective date of this general permit for existing 2004 MS4 permittees and no later than the end of the fourth year for new MS4 permittees. All such outfalls shall be screened by the end of the term of this general permit (5 years).

(iii) Follow-up Investigations

The permittee shall commence follow-up investigations identified pursuant to subsection (D), above, no later than two (2) years following the effective date of this general permit for existing 2004 MS4 permittees and three (3) years for new MS4 permittees.

(iv) Prioritized Outfall Monitoring

The permittee shall commence annual monitoring of the six outfalls identified pursuant to subsection (D)(iii), above, no later than beginning of the fourth year following the effective date of this general permit for existing 2004 MS4 permittees and no later than the beginning of the fifth year for new MS4 permittees.

(F) Reporting

The permittee shall report on the progress of their impaired waters investigation and monitoring program in their Annual Report beginning in the second year following the effective date of this general permit. The report shall include a listing of the outfalls screened during the year, the number of outfalls identified for follow-up investigation, the progress of drainage area investigations, a description of the control measure implementation for the different impairments, identification of the six outfalls to be monitored, and the results of the prioritized outfall monitoring.

(2) Stormwater Monitoring Procedures

(A) Wet Weather Outfall Monitoring

Samples shall be collected from discharges resulting from any rain storm that produces a discharge from the outfall(s) being monitored and that occurs at least 48 hours after any previous rain storm that produced a discharge from the outfall. Runoff events resulting from snow or ice melt alone cannot be used to meet these monitoring requirements. However, monitoring may be conducted during a rain event that may include insignificant amounts of snow or ice melt. Monitoring shall consist of a single grab sample taken within the first six (6) hours of discharge from the outfall.

(B) Rain Event Information

The following information shall be collected for the rain events during which monitoring is conducted:

- (i) The date, temperature, time of the start of the discharge, time of sampling, and magnitude (in inches) of the rain event sampled.
- (ii) The duration between the rain event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) rain event.

(C) Test Procedures

Unless otherwise specified in this permit, all pollutant parameters shall be tested according to methods prescribed in Title 40, CFR, Part 136 (1990). Laboratory analyses must be consistent with Connecticut Reasonable Confidence Protocols.

(j) Reporting & Record Keeping Requirements

- (1) The permittee shall keep records required by this permit for at least 5 years following its expiration or longer if requested by the Commissioner in writing. Such records, including the Stormwater Management Plan, shall be available to the public at reasonable times during regular business hours.

(2) Annual Report

By April 1 of the second year following the effective date of this general permit and annually thereafter by April 1, the permittee shall submit an Annual Report for the preceding calendar year electronically to the Department. The DEEP MS4 stormwater webpage (www.ct.gov/deep/municipalstormwater) will provide guidance on Annual Report submittal. The Annual Report must be in Microsoft Word®, Adobe Acrobat® or other format acceptable to the Commissioner. In the event that electronic submission is not available or possible, please contact the Stormwater Section at (860) 424-3025.

The report shall include:

(A) The Annual Report review fee is \$375.00.

- (i) The fees for municipalities shall be half of those indicated above pursuant to section 22a-6(b) of the Connecticut General Statutes. State and Federal agencies shall pay the full fees specified in this subsection.

(B) A written discussion of the status of compliance with this general permit including, but not limited to:

- (i) a listing and brief description (including, where appropriate, the address or latitude and longitude) of all BMPs within each Minimum Control Measure;
- (ii) any reporting requirements enumerated in the controls measures sections 6(a) and its subsections;
- (iii) an implementation schedule for each BMP and an indication of whether or not the BMP or any portion of the BMP was scheduled to be implemented during the year covered by the Annual Report;

- (iv) the status of implementation for each BMP scheduled to be completely or partially implemented during the year covered by the Annual Report, including an assessment of the appropriateness of the BMP and progress towards achieving the implementation dates and measurable goals for that BMP;
 - (v) for any portion of a BMP implementation scheduled for the year covered by the Annual Report that was *not* completed as scheduled, a discussion of the circumstances and reasons for non-implementation, a modified implementation schedule, and, if necessary, a modified or alternate BMP to replace the BMP not implemented including the rationale for such modification or alternate BMP;
 - (vi) the overall status of each of the six categories of the Minimum Control Measures and a discussion of the effectiveness of each category in achieving its goals;
 - (vii) a discussion of any changes to personnel responsible for the Plan or BMP implementation;
 - (viii) a description of any new BMPs added to the Plan during the year including a description of the BMP, the reason or rationale for adding the BMP, the timeline for implementation, the party responsible for implementation and the measurable goal for the BMP and, where appropriate, the location for each BMP, including the address and latitude and longitude;
 - (ix) a discussion of the progress and status of the MS4's IDDE program (see Section 6(a)(3)) including outfall screening, mapping, drainage area evaluation and prioritization, illicit discharge tracking activities, IDDP field monitoring results, number and type of illicit discharges detected, and number of illicit discharges eliminated;
 - (x) a discussion of measures included in the Plan for the control of discharges to impaired waters (see Section 6(k) below) including a list of BMPs in the Minimum Control Measures that are targeted for such discharges, progress in implementing these measures, any evaluation of the effectiveness of these measures in meeting the goals of the Plan's impaired waters program, and any new or modified BMPs to be added to the Plan to improve its effectiveness;
 - (xi) a discussion of the MS4's stormwater monitoring program describing the status of monitoring for the year of the report, the overall status of the monitoring program, a summary of the findings, any significant observations regarding the results, any modifications to the Plan as a result of the monitoring results; and
 - (xii) a discussion of any planned BMP implementation in the coming year, including a discussion of any new or modified BMPs planned for future implementation.
- (C) All monitoring data collected and analyzed pursuant to Section 6(i).
- (D) All other information collected and analyzed, including data collected under the Illicit Discharge Detection Protocol (Appendix B), during the reporting period.

(k) *Discharges to Impaired Waters or Water bodies subject to a Pollutant Load Reduction within a TMDL*

MS4s that discharge to impaired waters (with or without a TMDL), waters for which nitrogen, phosphorus, bacteria or mercury are stormwater pollutants of concern, or waters which have pollution load reductions specified within a TMDL are required to meet certain criteria identified in this section and other sections of this general permit.

(1) Existing Discharge to an Impaired Water without an Established TMDL

If the permittee discharges to an impaired water without an established TMDL, the permittee must follow:

- (A) For waters for which Phosphorus, Nitrogen, Bacteria, or Mercury are stormwater pollutants of concern, the control measures in Section 6(a) and the screening and monitoring requirements of Section 6(i)(1),
- (B) For all other impairments, implement control measures to reduce the discharge of the pollutant(s) associated with the impairment and follow the requirements of Section 6(i)(1)(C), or as directed by the Commissioner.

(2) Existing Discharge to a Water with an Established TMDL or with a Pollutant Load Reduction specified within the TMDL

If the permittee discharges to a water included in a TMDL, the permittee must follow:

- (A) For waters for which Phosphorus, Nitrogen, Bacteria, or Mercury is a stormwater pollutant of concern, the control measures in Section 6(a) and the screening and monitoring requirements of Section 6(i)(1),
- (B) For all other discharges subject to a pollutant load reduction contained within a TMDLs, implement control measures to be consistent with the Waste Load Allocation in the specific TMDL. The permittee must also conduct the appropriate screening and monitoring in accordance with Section 6(i)(1).
- (C) The permittee shall implement BMPs as necessary to achieve the Waste Load Allocation, Load Allocation or Water Quality Targets specified within the TMDL (see Appendix D).

(3) New Discharge to an Impaired Water without an Established TMDL

If a new discharge to an impaired water without a TMDL is authorized pursuant to the conditions of Section 3(b)(7), the permittee must implement and maintain any control measures or conditions on the site that enabled such authorization, and modify such measures or conditions as necessary to maintain such authorization. The permittee must also maintain compliance with this subsection and Section 6(i) and maintain documentation of these measures and conditions in their Plan.

(4) New Discharge to a Water with an Established TMDL or with a Pollutant Load Reduction specified within the TMDL

If a new discharge to a water with a TMDL or with a pollutant load reduction established within the TMDL is authorized pursuant to the conditions of Section 3(b)(7), the permittee must follow the discharge requirements consistent with the applicable Wasteload Allocations, Load Allocations or Water Quality Targets for that TMDL. The permittee must also conduct the appropriate screening and monitoring in accordance with Section 6(i)(1) and maintain documentation of these measures and conditions in their Plan.

Section 7. Additional Requirements of this General Permit

(a) Regulations of Connecticut State Agencies Incorporated into this General Permit

The permittee shall comply with all laws applicable to the subject discharges, including but not limited to, the following Regulations of Connecticut State Agencies which are hereby incorporated into this general permit, as if fully set forth herein:

(1) Section 22a-430-3:

Subsection (b) General - subparagraph (1)(D) and subdivisions (2), (3), (4) and (5)

Subsection (c) Inspection and Entry

Subsection (d) Effect of a Permit - subdivisions (1) and (4)

Subsection (e) Duty to Comply

Subsection (f) Proper Operation and Maintenance

Subsection (g) Sludge Disposal

Subsection (h) Duty to Mitigate

Subsection (i) Facility Modifications, Notification - subdivisions (1) and (4)

Subsection (j) Monitoring, Records and Report Requirements - subdivisions (1), (6), (7), (8), (9) and (11) (except subparagraphs (9) (A) (2) and (9) (c))

Subsection (k) Bypass

Subsection (m) Effluent Limitation Violations

Subsection (n) Enforcement

Subsection (p) Spill Prevention and Control

Subsection (q) Instrumentation, Alarms, Flow Recorders

Subsection (r) Equalization

(2) Section 22a-430-4

Subsection (t) Prohibitions

Subsection (p) Revocation, Denial, Modification

Appendices

(b) Reliance on Registration

In evaluating the permittee's registration, the Commissioner has relied on information provided by the permittee. If such information proves to be false or incomplete, the permittee's authorization may be suspended or revoked in accordance with law, and the Commissioner may take any other legal action provided by law.

(c) Duty to Correct and Report Violations

Upon learning of a violation of a condition of this general permit, a permittee shall immediately take all reasonable action to determine the cause of such violation, correct and mitigate the results of such violation and prevent further such violation. The permittee shall report in writing such violation and such corrective action to the Commissioner within five (5) days of the permittee's learning of such violation. Such information shall be filed in accordance with the certification requirements prescribed in Section 7(e) of this general permit.

(d) Duty to Provide Information

If the Commissioner requests any information pertinent to the authorized activity or to compliance with this general permit or with the permittee's authorization under this general permit, the permittee shall provide such information within thirty (30) days of such request. Such information shall be filed in accordance with the certification requirements prescribed in Section 7(e) of this general permit.

(e) Certification of Documents

Any document, including but not limited to any notice, information or report, which is submitted to the Commissioner under this general permit shall be signed by the chief elected official or principal executive officer of the municipality or institution, and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows:

“I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with Section 22a-6 of the Connecticut General Statutes, pursuant to Section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute.”

(f) Date of Filing

For purposes of this general permit, the date of filing with the Commissioner of any document is the date such document is received by the Commissioner. The word “day” as used in this general permit means the calendar day; if any date specified in the general permit falls on a Saturday, Sunday, or legal holiday, such deadline shall be the next business day.

(g) False Statements

Any false statement in any information submitted pursuant to this general permit may be punishable as a criminal offense, in accordance with Section 22a-6, under Section 53a-157b of the Connecticut General Statutes.

(h) Correction of Inaccuracies

Within fifteen days after the date the permittee becomes aware of a change in any information in any material submitted pursuant to this general permit, or becomes aware that any such information is inaccurate or misleading or that any relevant information has been omitted, the permittee shall correct the inaccurate or misleading information or supply the omitted

information in writing to the Commissioner. Such information shall be filed in accordance with the certification requirements prescribed in Section 7(e) of this general permit.

(i) Other Applicable Law

Nothing in this general permit shall relieve the permittee of the obligation to comply with any other applicable federal, state and local law, including but not limited to the obligation to obtain any other authorizations required by such law.

(j) Other Rights

This general permit is subject to and does not derogate any present or future rights or powers of the State of Connecticut and conveys no rights in real or personal property nor any exclusive privileges, and is subject to all public and private rights and to any federal, state, and local laws pertinent to the property or activity affected by such general permit. In conducting any activity authorized hereunder, the permittee may not cause pollution, impairment, or destruction of the air, water, or other natural resources of this state. The issuance of this general permit shall not create any presumption that this general permit should or will be renewed.

Section 8. Commissioner's Powers

(a) Abatement of Violations

The Commissioner may take any action provided by law to abate a violation of this general permit, including but not limited to penalties of up to \$25,000 per violation per day under Chapter 446k of the Connecticut General Statutes, for such violation. The Commissioner may, by summary proceedings or otherwise and for any reason provided by law, including violation of this general permit, revoke a permittee's authorization hereunder in accordance with Sections 22a-3a-2 through 22a-3a-6, inclusive, of the Regulations of Connecticut State Agencies. Nothing herein shall be construed to affect any remedy available to the Commissioner by law.

(b) General Permit Revocation, Suspension, or Modification

The Commissioner may, for any reason provided by law, by summary proceedings or otherwise, revoke or suspend this general permit or modify to establish any appropriate conditions, schedules of compliance, or other provisions which may be necessary to protect human health or the environment.

(c) Filing of an Individual Application

If the Commissioner notifies a permittee in writing that such permittee shall obtain an individual permit under Section 22a-430 of the Connecticut General Statutes if he wishes to continue lawfully conducting the authorized activity, the permittee shall file an application for an individual permit within thirty (30) days of receiving the Commissioner's notice, or at such other date as the Commissioner may allow. While such application is pending before the Commissioner, the permittee shall comply with the terms and conditions of this general permit and the subject approval of registration. If the Commissioner issues an individual permit to a permittee under this general permit, this general permit, as it applies to such permittee, shall automatically terminate on the date such individual permit is issued. Nothing herein shall affect the Commissioner's power to revoke a permittee's authorization under this general permit at any time.

Issued Date: January 20, 2016

Michael Sullivan

Deputy Commissioner

This is a true and accurate copy of the general permit executed on January 20, 2016 by the Department of Energy and Environmental Protection.

Appendix A – Small MS4 Municipalities

Connecticut Municipalities with >1,000 People in Urbanized Areas		
Ansonia	Avon	Beacon Falls
Berlin	Bethany	Bethel
Bloomfield	Bolton	Branford
Bridgeport	Bristol	Brookfield
Brooklyn*	Burlington	Canton
Cheshire	Chester	Clinton
Cromwell	Danbury	Darien
Deep River	Derby	Durham
East Granby	East Hartford	East Haven
East Lyme	East Windsor	Easton
Ellington	Enfield	Essex
Fairfield	Farmington	Glastonbury
Granby	Greenwich	Griswold
Groton (City)	Groton (Town)	Guilford
Haddam*	Hamden	Hartford
Hebron	Killingly*	Ledyard
Lisbon	Madison	Manchester
Marlborough	Meriden	Middlebury
Mansfield*	Middlefield	Middletown
Milford	Monroe	Montville
Naugatuck	New Britain	New Canaan
New Fairfield	New Hartford*	New Haven
New London	New Milford	Newington
Newtown	North Branford	North Haven
Norwalk	Norwich	Old Lyme
Old Saybrook	Orange	Oxford
Plainfield*	Plainville	Plymouth
Portland	Prospect	Putnam
Redding	Ridgefield	Rocky Hill
Seymour	Shelton	Simsbury
Somers	South Windsor	Southbury
Southington	Sprague*	Stonington (Town & Borough)
Stratford	Suffield	Thomaston
Thompson	Tolland	Trumbull
Vernon	Wallingford	Waterbury
Waterford	Watertown	West Hartford
West Haven	Westbrook	Weston
Westport	Wethersfield	Wilton
Willington*	Windsor	Windsor Locks
Wolcott	Woodbridge	Woodbury

* Designates New MS4 Permittees

Appendix B

Illicit Discharge Detection and Elimination (IDDE) Program Protocol

(A) Illicit Discharge Detection and Elimination (IDDE) Program

Objective: The permittee shall implement an IDDE program to systematically find and eliminate sources of non-stormwater discharges to its MS4 and implement procedures to prevent such discharges.

During the development of the new components of the IDDE program required by this permit, permittees previously authorized by the permit issued January 9, 2004 must continue to implement their existing IDDE program required by that permit to detect and eliminate illicit discharges to their MS4.

(1) Definitions and Prohibitions

The permittee shall prohibit illicit discharges and sanitary sewer overflows (SSOs) to its MS4 and require removal of such discharges consistent with subsections (2) and (4), below.

An SSO is a discharge of untreated sanitary wastewater from a municipal sanitary sewer.

An illicit discharge is any discharge to an MS4 that is not composed entirely of stormwater, *except*:

- (a) discharges authorized under a separate NPDES permit that authorize a discharge to the MS4
- (b) non-stormwater discharges allowed by Section 3(a)(2) of this general permit

(2) Elimination of Illicit Discharges

- (a) Upon detection, the permittee shall eliminate illicit discharges as soon as possible and require the immediate cessation of such discharges upon confirmation of responsible parties in accordance with its enforceable legal authorities established pursuant to subsection (B) below. Where elimination of an illicit discharge within sixty (60) days of its confirmation is not possible, the permittee shall establish a schedule for its elimination not to exceed 180 days (six (6) months). The permittee shall immediately commence actions necessary for elimination. The permittee shall diligently pursue elimination of all illicit discharges. In the interim, the permittee shall take all reasonable and prudent measures to minimize the discharge of pollutants to its MS4.
- (b) The period between identification and elimination of an illicit discharge is not a grace period. Discharges from an MS4 that are mixed with an illicit discharge are not authorized by this general permit, are unlawful, and remain unlawful until eliminated.

(3) Non-Stormwater Discharges

The permittee may presume that the sources of non-stormwater listed in Section 3(a)(2) of this permit need not be addressed. However, if the permittee identifies any of these sources as significant contributors of pollutants to the MS4, then the permittee shall implement measures to control these sources so they are no longer significant contributors of pollutants, and/or eliminate them entirely, consistent with this appendix.

(4) Sanitary Sewer Overflows

- (a) Upon detection of an SSO the permittee shall eliminate it as expeditiously as possible and take interim mitigation measures to minimize the discharge of pollutants to and from its MS4 until elimination is completed.
- (b) The permittee shall identify all known locations where SSOs have discharged to the MS4 within the previous five years. This shall include SSOs resulting, during dry or wet weather, from inadequate conveyance capacities, or where interconnectivity of the storm and sanitary sewer infrastructure allows for communication of flow between the systems. Within 120 days of the effective date of the permit, the permittee shall develop an inventory of all identified SSOs indicating:
 - Location (approximate street crossing/address and receiving water, if any);
 - A clear statement of whether the discharge entered a surface water directly or entered the MS4;
 - Date(s) and time(s) of each known SSO occurrence (i.e. beginning and end of any known discharge);
 - Estimated volume(s) of the occurrence;
 - Description of the occurrence indicating known or suspected cause(s);
 - Mitigation and corrective measures completed with dates implemented; and
 - Mitigation and corrective measures planned with implementation schedules.

The permittee shall maintain the inventory as a part of the Plan and update the inventory annually.

- (c) The permittee shall provide written notice to the Commissioner within five (5) days of becoming aware of the SSO occurrence and shall include the information in the updated inventory. The notice shall contain all of the information listed in subsection (b), above.
- (d) The permittee shall include and update the SSO inventory in its annual report, including the status of mitigation and corrective measures implemented by the permittee to address each SSO identified pursuant to this appendix.
- (e) The period between identification and elimination of a discharge from the SSO to the MS4 is not a grace period. Discharges from an MS4 that are mixed with an SSO are not authorized by this general permit, are unlawful and remain unlawful until eliminated.

(5) Outfall/Interconnection Inventory

The permittee shall develop an outfall and interconnection inventory that identifies each outfall and interconnection discharging from the MS4, records its location and condition, and provides a framework for tracking inspections, screenings and other activities under the permittee's IDDE program pursuant to Section 6(a)(3) of this general permit.

- (a) An outfall means a point source as defined by 40 CFR § 122.2 and in Section 2 of this general permit as the point where the MS4 discharges to waters of the state. An outfall does not include open conveyances connecting two separate storm sewers or pipes, tunnels or other conveyances that connect segments of the same stream or other waters of the state and that are used to convey waters of the state. However, it is strongly recommended that a permittee inspect all

accessible portions of the system as part of this process. Culverts longer than a simple road crossing shall be included in the inventory unless the permittee can confirm that they are free of any connections and simply convey waters of the state.

An interconnection means the point where the permittee's MS4 discharges to another MS4 or other storm sewer system, through which the discharge is conveyed to waters of the state or to another storm sewer system and eventually to a water of the state.

- (b) The permittee shall complete its outfall and interconnection inventory in accordance with the timelines in Sections 6(a)(3)(C)(ii) and (iii) and shall include the progress of this inventory in each annual report. The inventory shall be updated annually to include data collected in connection with the dry weather screening under subsection (7(d)), below, and other relevant inspections conducted by the permittee.
- (c) The inventory shall include the following information: unique identifier, receiving water, date of most recent inspection, dimensions, shape, material (concrete, PVC), spatial location (latitude and longitude with a minimum accuracy of +/-30 feet, physical condition and indicators of potential non-stormwater discharges (including presence or evidence of suspect flow and sensory observations such as odor, color, turbidity, floatables, or oil sheen) as of the most recent inspection.

(6) System mapping

The permittee shall develop a revised and more detailed map than was required by the previous permit issued January 9, 2004. This revised map of the MS4 shall include, at a minimum, parts of the MS4 within the Urbanized Area and those catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters ("priority" areas). This map shall be completed within three (3) years of the effective date of this permit for existing 2004 MS4 permittees and by the end of the permit term for new 2004 MS4 permittees. This permit does not provide additional time for existing 2004 MS4 permittees for completion of the mapping that was required by the previous permit.

- (a) The mapping shall include, at a minimum, a depiction of the permittee's separate storm sewer system in the priority areas described above. The mapping is intended to facilitate the identification of key infrastructure and factors influencing proper system operation, and the potential for illicit sanitary sewer discharges. The map shall include the required infrastructure and water resources information as indicated in subparagraph (i), below, and shall include the information in subparagraph (ii), below, where available. The Commissioner also recommends the inclusion of additional items as indicated in subparagraph (iii), below.

(i) Required mapping elements

- Municipal separate storm sewer system
 - outfalls and receiving waters (required by previous permit)
 - pipes
 - open channel conveyances (swales, ditches, etc.)
 - catch basins
 - manholes
 - interconnections with other MS4s and other storm sewer systems

- municipally-owned stormwater treatment structures (e.g. detention and retention basins, infiltration systems, bioretention areas, water quality swales, gross particle separators, oil/water separators, or other proprietary systems)
- Catchment delineations as defined in Section 2 for use in priority rankings required in subsection (7)(c), below, or prioritizing BMP retrofits.
- Waterbodies identified by name and indication of all use impairments as identified on the most recent Integrated Water Quality Report pursuant to Clean Water Act section 303(d) and 305(b).

(ii) Elements required where available

- Municipal sanitary sewer system;
- Municipal combined sewer system, if applicable

(iii) Recommended elements

- Storm sewer material, size and age.
 - Sanitary sewer system material, size and age
 - Where a municipal sanitary sewer system exists, properties known or suspected to be served by a septic system, especially in high-density urban areas
 - Area where the permittee's MS4 has received or could receive flow from septic system discharges (e.g. areas with poor soils, or high ground water elevations unsuitable for conventional subsurface disposal systems)
 - Seasonal high water table elevations impacting sanitary alignments
 - Topography
 - Orthophotography
 - Alignments, dates and representation of work completed (with legend) of past illicit discharge investigations (e.g. flow isolation, dye testing, CCTV)
 - Locations of suspected, confirmed and corrected illicit discharges (with dates and flow estimates)
- (b) The mapping may be produced by hand or through computer-aided methods (e.g. GIS). The required scale and detail of the map shall be appropriate to facilitate a rapid understanding of the system by the permittee and the Commissioner. In addition, the mapping shall serve as a planning tool for the implementation and phasing of the IDDE program and demonstration of the extent of complete and planned investigations and corrections. The permittee shall update the mapping as necessary to reflect newly discovered information and required corrections or modifications.
- (c) The permittee shall report on the progress towards the completion of the map required by this permit in each annual report.

(7) Written Illicit Discharge Detection and Elimination Program

The IDDE program shall be recorded in a written document pursuant to Section 6(a)(3) of the general permit. The IDDE program shall include each of the elements described in subsections (a) – (h), below, unless the permittee provides a written explanation within the IDDE program as to why a particular element is not applicable to the permittee.

Notwithstanding the permittee's explanation, the Commissioner may at any time determine that a particular element is in fact applicable to the permittee and require the permittee to add it to the IDDE program. The written IDDE program shall be completed within one (1) year of the effective date of the permit for existing 2004 MS4 permittees and within two (2) years of the effective date of this general permit for new MS4 permittees. The permittee shall implement the IDDE program in accordance with the goals and milestones set forth in subsection (8), below.

(a) Legal Authority

The IDDE program shall provide that the permittee has adequate legal authority to accomplish the following tasks: prohibit illicit discharges; investigate suspected illicit discharges; eliminate illicit discharges, including discharges from properties not owned by or controlled by the MS4 that discharge into the MS4 system; and implement appropriate enforcement procedures and actions. Adequate legal authority consists of a currently effective ordinance, by-law, or other regulatory mechanism. For existing 2004 MS4 permittees, the ordinance, by-law, or other regulatory mechanism was a requirement of that permit and was required to be effective by January 8, 2009. These permittees shall update their IDDE legal authority within one year of the effective date of this permit. New MS4 permittees must establish this legal authority on or before two (2) years of the effective date of this permit. The written IDDE program shall include a reference or citation of the authority the permittee will use to implement all aspects of the IDDE program.

(b) Statement of IDDE Program Responsibilities

The permittee shall establish a written statement that clearly identifies responsibilities with regard to eliminating illicit discharges. The statement shall identify the lead permittee agency(ies), department(s) or personnel responsible for implementing the IDDE Program as well as any other agencies, departments or personnel that may have responsibilities for aspects of the program (e.g. state or local health officials responsible for overseeing septic system construction; sanitary sewer system staff; inspectional services for enforcing plumbing codes; town counsel responsibilities in enforcement actions, institutional support staff etc.). Where multiple departments, agencies or personnel have responsibilities with respect to the IDDE program specific areas of responsibility shall be defined and processes for coordination and data sharing shall be established and documented.

(c) Assessment and Priority Ranking of Catchments

The permittee shall assess and priority rank the catchments, delineated as required by subsection (6)(a), above, in terms of their potential to have illicit discharges and SSOs and the related public health significance. This ranking will determine the priority order for screening of outfalls and interconnections pursuant to subsection (d), below, catchment investigations for evidence of illicit discharges and SSOs pursuant to subsection (e), below, and provides the basis for determining permit milestones pursuant to subsection (8), below.

(i) The permittee shall classify each catchment into one of the following categories:

- Excluded catchments: Catchments with no potential for illicit discharges may be excluded from the IDDE program. This category is limited to roadway drainage in undeveloped areas with no dwellings and no sanitary sewers; drainage for athletic fields, parks or undeveloped green space and associated parking without services;

cross-country drainage alignments (that neither cross nor are in proximity to sanitary sewer alignments) through undeveloped land.

- Problem Catchments: Catchments with known or suspected contributions of illicit discharges based on existing information shall be designated as Problem Catchments. This shall include any catchments where previous outfall/interconnection screening indicates sewer input based on olfactory/visual evidence or sampling results (ammonia ≥ 0.5 mg/l, surfactants ≥ 0.25 mg/l, and bacteria levels greater than the water quality criteria applicable to the receiving water; or ammonia ≥ 0.5 mg/l, surfactants ≥ 0.25 mg/l, and detectable levels of chlorine). Problem Catchments need not be screened pursuant to subsection (d), below, and shall be scheduled for catchment investigation pursuant to subsection (e), below. Problem catchments shall be identified during the initial ranking of catchments and subsequent rankings shall not add any catchments to the Problem Catchment category.
 - High Priority Catchments: Catchments that have not been classified as Problem Catchments and that are discharging to an area of concern to public health due to proximity of public beaches, recreational areas, drinking water supplies or shellfish beds; catchments determined by the permittee as high priority based on outfall/interconnection screening under subsection (d), below, and catchment characteristics assessment under subparagraph (c)(ii), below. Any catchment where outfall/interconnection screening indicates sewer input based on olfactory/visual evidence or sampling results (ammonia ≥ 0.5 mg/l, surfactants ≥ 0.25 mg/l, and bacteria levels greater than the water quality criteria applicable to the receiving water; or ammonia ≥ 0.5 mg/l, surfactants ≥ 0.25 mg/l, and detectable levels of chlorine) shall be ranked at the top of the High Priority Catchments category and scheduled for catchment investigation pursuant to subsection (e), below.
 - Low Priority Catchments: Catchments determined by the permittee as low priority based on outfall/interconnection screening under subsection (d), below, and catchment characteristics assessment under subparagraph (c)(ii), below.
- (ii) The permittee shall priority rank catchments within each category (except for excluded catchments), based on screening factors. The permittee shall, at a minimum, consider the following screening factors:
- Past discharge complaints and reports.
 - Poor dry weather receiving water quality- the following guidelines are recommended to identify waters as having a high illicit discharge potential: exceeding water quality standards for bacteria; ammonia levels above 0.5 mg/l; surfactants levels greater than or equal to 0.25 mg/l.
 - Density of generating sites - Generating sites are those places, including institutional, municipal, commercial, or industrial sites, with a potential to generate pollutants that could contribute to illicit discharges. Examples of these sites include, but are not limited to, car dealers; car washes; gas stations; garden centers; and industrial manufacturing areas.
 - Age of surrounding development and infrastructure – Industrial areas greater than 40 years old and areas where the sanitary sewer system is more than 40 years old will probably have a high illicit discharge potential. Developments 20 years or younger will probably have a low illicit discharge potential.
 - Sewer conversion – Catchments that were once serviced by septic systems, but have been converted to sewer connections may have a high illicit discharge potential.

- Historic combined sewer systems – Catchments that were once serviced by a combined sewer system, but have been separated may have a high illicit discharge potential.
- Density of aging septic systems – Septic systems thirty years or older in residential land use areas are prone to have failures and may have a high illicit discharge potential. Consultation with local or state health officials is strongly encouraged.
- Culverted streams – any river or stream that is culverted for distances greater than a simple roadway crossing may have a high illicit discharge potential.

The permittee may also consider as priorities for evaluation for illicit discharges, although not necessarily indicators of the presence of illicit connections or discharges:

- Water bodies that receive a discharge from the MS4 and are drinking water supplies, shell fishing areas, beaches or waters used for contact recreation.
- Impaired waterbodies that receive a discharge from the MS4 or waters with approved TMDLs applicable to the permittee, where illicit discharges have the potential to contain the pollutant identified as the cause of the impairment.

The permittee may add additional relevant factors, including location-specific screening factors; if so, the permittee shall include the additional factors in its written IDDE program.

- (iii) An initial illicit discharge potential assessment and priority ranking based on existing information shall be completed within two (2) years from the effective date of the permit for existing 2004 MS4 permittees. New MS4 permittees shall complete this assessment and ranking by the end of the term of the permit. The permittee shall update its assessment and priority ranking annually based on catchment delineations pursuant to subsection (6), above, the results of screening pursuant to subsection (d), below, and other new relevant information. The permittee shall provide a listing of all catchments and the results of the ranking for each catchment in each annual report. For each catchment being investigated the permittee shall also provide in its annual report (1) a summary of evidence of known or suspected illicit discharges and SSOs; (2) completed, ongoing or planned corrective measures addressing confirmed illicit discharges and SSOs; and (3) a schedule for completing and verifying measures correcting the confirmed illicit discharges and SSOs.

(d) Outfall and Interconnection Screening and Sampling

The IDDE program shall include a written procedure for screening and sampling of outfalls and interconnections from the MS4 in dry and wet weather for evidence of illicit discharges and SSOs. This screening procedure shall be used for:

- baseline outfall and interconnection screening pursuant to subparagraph (iii), below (dry weather);
 - confirmatory screenings pursuant to subsection (f), below (dry and/or wet weather depending on catchment characteristics);
 - follow-up screening pursuant to subsection (g), below (dry and/or wet weather depending on catchment characteristics).
- (i) The screening and sampling procedure shall include procedures for sample collection, use of field kits, storage and conveyance of samples (including relevant hold times).

- (ii) If an outfall is inaccessible or submerged, the permittee shall proceed to the first accessible upstream manhole or structure for the observation and sampling and report the location with the screening results. If an interconnection is inaccessible or submerged, interconnection screening shall occur at the first accessible location within the permittee's system upgradient of the interconnection.
- (iii) Dry weather screening and sampling shall proceed only when no more than 0.1 inches of rainfall has occurred in the previous 24-hour period. When a flow is observed, a sample of the flow shall be collected and analyzed for the parameters listed in subparagraph (v), below. If no dry weather flow is observed, the permittee shall record the condition of the outfall and other relevant information. If no flow is observed, but evidence of dry weather flow exists, the permittee shall revisit the outfall during dry weather within one week of the initial observation, if practicable, to perform a second dry weather screening and sample any observed flow. The permittee shall identify in the annual report any other necessary follow-up actions to identify the source of any apparent intermittent flow not sampled.
- (iv) Wet weather screening and sampling, which shall be conducted at an outfall and/or within the catchment area in accordance with subparagraph (e)(ii)b., below, shall proceed during or after a storm event of sufficient depth or intensity to produce a stormwater discharge but only during the spring (March to June) when groundwater levels are relatively high. The permit does not require a minimum rainfall event prior to wet weather screening. However, the purpose of wet weather screening and sampling under the IDDE program is to identify illicit discharges that may activate or become evident during wet weather. Permittees may incorporate provisions that assist in targeting such discharges, including avoiding sampling during the initial period of discharge ("first flush") and/or identifying minimum storm event intensities likely to trigger sanitary sewer interconnections.
- (v) Samples shall be analyzed at a minimum for ammonia, chlorine, conductivity, salinity, *E. coli*. (freshwater receiving water) or enterococcus (saline or brackish receiving water), surfactants (such as MBAS), and temperature. All analyses with the exception of indicator bacteria can be performed with field test kits or field instrumentation. In addition, where the discharge is directly into a water quality limited water or a water subject to an approved TMDL, the sample shall be analyzed for the pollutants identified as the cause of the impairment. Sampling for pollutants of concern shall be conducted using the analytical methods found in 40 CFR §136, or alternative methods approved by the Commissioner in accordance with the procedures in 40 CFR §136. Other IDDE screening parameters shall be considered field screening and are not subject to 40 CFR Part 136 requirements.
- (vi) Catchments where there is relevant information indicating sewer input to the MS4 or sampling results where ammonia ≥ 0.5 mg/l, surfactants ≥ 0.25 mg/l, and bacteria levels greater than the water quality criteria applicable to the receiving water (or alternatively, ammonia ≥ 0.5 mg/l, surfactants ≥ 0.25 mg/l, and detectable levels of chlorine) shall be considered highly likely to contain illicit discharges from sanitary sources, and such catchments shall be ranked at the top of the High Priority Catchments category for investigation.

(e) Catchment Investigation Procedure

The permittee shall develop a written systematic procedure for catchment investigation that includes (1) a review of mapping and historic plans and records for the catchment; (2) a manhole inspection methodology; and (3) procedures to isolate and confirm sources of illicit discharges, as set forth below.

- (i) For each catchment being investigated, the permittee shall review relevant mapping and historic plans and records to the extent available, including but not limited to plans related to the construction of the storm drain and of sanitary sewers in the catchment, prior work performed on the storm drain or sanitary sewers, local health official or other municipal data on septic system failures or required upgrades, and complaint records related to SSOs, sanitary sewer surcharges, and septic system breakouts. This review shall be used to identify areas within the catchment with higher potential for illicit connections and System Vulnerability Factors that indicate a risk of sanitary or septic system inputs to the MS4 under wet weather conditions. Consultation with local or state health officials is strongly encouraged. The permittee shall identify and record the presence of any of the following specific System Vulnerability Factors:

- History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages;
- Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs;
- Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints;
- Common or twin-invert manholes serving storm and sanitary sewer alignments;
- Common trench construction serving both storm and sanitary sewer alignments;
- Crossings of storm and sanitary sewer alignments;
- Sanitary sewer alignments known or suspected to have been constructed with an underdrain system;
- Sanitary sewer infrastructure defects such as leaking service laterals, cracked, broken, or offset sanitary infrastructure, directly piped connections between storm drain and sanitary sewer infrastructure, or other vulnerability factors identified through Inflow/Infiltration Analyses, Sanitary Sewer Evaluation Surveys, or other infrastructure investigations.
- Areas formerly served by combined sewer systems;
- Any sanitary sewer and storm drain infrastructure greater than 40 years old in medium and densely developed areas;
- Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance);
- History of multiple local health department or sanitarian actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance);

The permittee shall document the presence or absence of System Vulnerability Factors for each catchment, retain this documentation as part of its IDDE program, and report this

information in Annual Reports. Where System Vulnerability Factors are present, the catchment shall be investigated pursuant to subparagraph (ii)b., below.

- (ii) The manhole inspection methodology shall describe a storm drain network investigation that involves systematically and progressively observing, sampling (as required below) and evaluating key junction manholes in the MS4 to narrow the location of suspected illicit discharges or SSOs to an isolated pipe segment between two manholes, locate evidence of illicit discharges or SSOs that may not be evident at the outfall under all circumstances, and confirm or identify potential system vulnerability factors. The written catchment investigation procedures shall detail how the permittee will further isolate and identify potential illicit discharges as indicated by field kit detections equal to or greater than the threshold values listed in subparagraph (d)(vi), above. The permittee is responsible for selecting key junction manholes in a manner such that the distance between key junction manholes is appropriate to ensure a thorough assessment of its system.

The manhole inspection methodology may either start from the outfall and work up the system or start from the upper parts of the catchment and work down the system or be a combination of both practices. Either method must, at a minimum, include an investigation of each key junction manhole within the MS4, even where no evidence of an illicit discharge is observed at the outfall. The Catchment Investigation Procedure must describe the method the permittee will use.

a. Dry weather investigation

Key junction manholes shall be opened and inspected for visual and olfactory evidence of illicit connections (e.g. excrement, toilet paper, gray filamentous bacterial growth, or sanitary products present). If flow is observed, the permittee shall sample the flow at a minimum for ammonia, chlorine and surfactants and can use field kits for these analyses. Additional indicator sampling may assist in determining potential sources (e.g. bacteria for sanitary flows, conductivity to detect tidal backwater, etc.). Where sampling results or visual or olfactory evidence indicate potential illicit discharges or SSOs, the area draining to the junction manhole shall be flagged for further investigation, through upstream junction manhole investigation and/or isolation and confirmation of sources pursuant to subsection (e)(ii), above.

Manhole inspections in all areas shall also include identifying System Vulnerability Factors including common (twin invert) manholes, directly piped connections between storm drains and sanitary sewer infrastructure, common weir walls, sanitary sewer underdrain connections and other structural vulnerabilities where sanitary discharges could enter the storm drain system during wet weather. Where present, such System Vulnerability Factors shall be investigated pursuant to paragraph (b) below.

b. Wet weather investigation

Where the review of mapping and historic plans and records and/or manhole inspections indicate the presence of one or more System Vulnerability Factors as listed in subsection (e)(i), above, the permittee shall also inspect and sample under wet weather conditions to the extent necessary to determine whether wet weather-induced high flows in sanitary sewers or high groundwater in areas served by septic

systems result in discharges of sanitary flow to the MS4. The permittee shall conduct at least one wet weather screening and sampling at the outfall for any catchment where one or more System Vulnerability Factors are present. This sampling can be done upon completion of any dry weather investigation but must be completed before catchment investigation is marked as complete. All data shall be recorded and reported in each annual report.

(iii) Isolation and Source Verification Procedures

The permittee shall develop procedures to be used to isolate and confirm sources where manhole investigations or other physical evidence or screening has identified MS4 alignments to be influenced by illicit discharges or SSOs. These shall include isolation of the drainage area for implementation of more detailed investigations, inspection of additional manholes along the alignment to refine the location of potential contaminant sources, and methods such as caulk damns, targeted internal plumbing inspections, dye testing, video inspections, or smoke testing to isolate and confirm the sources.

(f) Removal and Confirmation

When the source of an illicit discharge or SSO is identified and confirmed, the permittee shall exercise its authority as necessary to require its removal pursuant to subsections (2) or (3), above. For each confirmed source the permittee shall include in the annual report the following information: the location of the discharge and its source(s), a description of the discharge, the method of discovery, date of discovery, date of elimination, mitigation or enforcement action; and estimate of the volume of flow removed.

Within one year of removal of all identified illicit discharge and SSO sources within a catchment area, confirmatory outfall or interconnection screening shall be conducted. The confirmatory screening shall be conducted in dry weather unless System Vulnerability Factors have been identified in the catchment pursuant to subsection (e)(i), above, in which case both dry weather and wet weather confirmatory screening shall be conducted. If confirmatory screening indicates evidence of additional illicit discharges, the catchment shall be scheduled for additional investigation. Confirmatory screening is not required in catchments where no illicit discharges or system vulnerability factors have been identified and no previous screening indicated suspicious flows.

(g) Follow-up Screening

Upon completion of catchment investigation pursuant to subsection (e), above, and illicit discharge removal and confirmation (if necessary) pursuant to subsection (f), above, the catchment outfall or interconnection shall be scheduled for follow-up screening within five years, or sooner as determined by the permittee based on the catchment's illicit discharge priority. Follow-up screening shall consist of dry weather screening and sampling except that wet weather screening and sampling shall also be required in catchments where wet weather screening was required by subparagraph (e)(ii)b., above.

(h) Illicit Discharge Prevention Procedures

The permittee shall develop and implement mechanisms and procedures designed to prevent illicit discharges and SSOs, such as: spill response and prevention procedures including identification of spills, reporting procedures, containment procedures, and documentation;

public awareness (this may be a part of the education program required by subsection (2), above); reporting (hotlines) and training of public employees involved in the IDDE program on ways to identify potential illicit discharges and SSOs.

(8) IDDE Program Implementation Goals and Milestones

The permittee shall implement the IDDE Program to meet the following goals and milestones:

- (a) The permittee shall complete dry weather screening and sampling (where flowing) of every MS4 outfall and interconnection (except Excluded and Problem Catchments) no later than three years from the permit effective date for existing 2004 MS4 permittees and by the end of the permit term for new MS4 permittees. Existing 2004 MS4 permittees may rely on screening conducted under the previous permit issued January 9, 2004, pursuant to an enforcement action, or by the Commissioner to the extent that it meets the requirements of subsection (7), above. New MS4 permittees shall complete dry weather screening and sampling of every MS4 outfall and interconnection (except Excluded and Problem Catchments) no later than the end of the permit term. All data shall be reported in each annual report. Permittees that have conducted substantially equivalent monitoring to that required by subsection (7)(d), above, as part of an enforcement action can request an exemption from the requirements of subsection (7)(d), above, by submitting a written request to the Commissioner and retaining exemption approval from the Commissioner as part of the Plan. Until the permittee receives formal written approval of the exemption from subsection (7)(d), above, from the Commissioner the permittee remains subject to all requirements of subsection (7)(d), above.
- (b) Existing 2004 MS4 permittees shall begin investigations using the procedure developed in accordance with subsection (7)(d), above, within three months of investigation procedure finalization and no later than 15 months (1 year and 3 months) from the effective date of the permit. New MS4 permittees shall begin these investigations no later than 2 years and 3 months from the effective date of the permit. All permittees shall make continued progress each year toward meeting the milestones of subsection (8)(c), below. The permittee shall continue investigation, including Problem Catchments, using its existing IDDE program until such time as the procedure under subsection (7)(e), above, is developed.
- (c) The permittee shall implement the Catchment Investigation Procedure in every catchment of the MS4, even where dry weather screening does not indicate evidence of illicit discharges. The permittee shall begin implementation of the procedure in Problem Catchments and those catchments with the highest ranking in the Assessment of Priority Catchments pursuant to subsection (7)(c), above. Implementation of the Catchment Investigation Procedure shall comply with the following milestones. For purposes of these milestones, a catchment investigation is considered complete if a permittee has completed all elements of subsection (7)(e), above.
 - i. The permittee shall complete the Catchment Investigation Procedure in a minimum of 80% of the MS4 area served by Problem Catchments within three years of the permit effective date and 100% of Problem Catchments within five years of the permit effective date.
 - ii. The permittee shall complete the Catchment Investigation Procedure in every catchment of the MS4 where information indicates sewer input including outfall/interconnection screening that indicates sewer input based on olfactory/visual evidence or sampling results (ammonia ≥ 0.5 mg/l, surfactants ≥ 0.25 mg/l, and bacteria levels greater than the water

quality criteria applicable to the receiving water; or ammonia ≥ 0.5 mg/l, surfactants ≥ 0.25 mg/l, and detectable levels of chlorine) within five (5) years of the permit effective date.

- iii. The permittee shall complete the Catchment Investigation Procedure in 40% of the area served by all MS4 catchments within five (5) years of the permit effective date, and in 100% of the area served by all MS4 catchments within ten (10) years of the permit effective date. The permittee may count the area of low priority catchments only if the Catchment Investigation has been started in all other MS4 catchments. For the purposes of this section, catchment investigations that have been started include those where provisions of subsections (7)(e)(i) and (ii), above, have been completed.
- d. Where catchments do not contain junction manholes, the dry weather screening and sampling shall be considered as meeting the manhole inspection requirement. In these catchments, dry weather screenings that indicate potential presence of illicit discharges shall be further investigated pursuant to subsection (7)(e)(iii), above. Investigations in these catchments may be considered complete where dry weather screening reveals no flow; no evidence of illicit discharges or SSOs is indicated through sampling results or visual or olfactory means; and no wet weather System Vulnerability Factors are identified.
- e. The permittee shall track progress towards these milestones in each annual report.

(9) Indicators of IDDE Program Progress

The permittee shall define or describe indicators for tracking program success. At a minimum, indicators shall include measures that demonstrate efforts to locate illicit discharges, the number of SSOs and illicit discharges identified and removed, the percent and area in acres of the catchment area served by the MS4 evaluated using the catchment investigation procedure, and volume of sewage removed. The permittee shall evaluate and report the overall effectiveness of the program based on the tracking indicators in the annual report.

(10) Training

The permittee shall, at a minimum, annually provide training to employees involved in IDDE program about the program, including how to recognize illicit discharges and SSOs. The permittee shall report on the frequency and type of employee training in the annual report.

Appendix C

AQUIFER PROTECTION AREAS AND OTHER GROUNDWATER DRINKING SUPPLY AREAS

GUIDANCE INFORMATION

The Stormwater Management Plan (“the Plan”) should consider measures to reduce or mitigate potential impacts to both ground water (aquifers) and surface waters, taking into consideration both quantity and quality of the runoff. The emphasis should be to minimize, to the extent possible, changes between pre-development and post-development runoff rates and volumes. Coordination and discussion with the local water company is strongly encouraged.

The basic stormwater principals for Aquifer Protection Areas (and other groundwater drinking supply areas) are to prevent inadvertent pollution discharges/releases to the ground, while encouraging recharge of stormwater where it does not endanger groundwater quality. The permittee should review Sections 19-13-B32(h) and (i) of the Regulations of Connecticut State Agencies for additional information. Measures include:

- prevent illicit discharges to storm water, including fuel/chemical pollution releases to the ground;
- minimize DCIA and disconnect large areas of DCIA with natural or landscape areas;
- direct paved surface runoff to aboveground type land treatment structures – sheet flow, surface swales, depressed grass islands, detention/retention and infiltration basins, and wet basins. These provide an opportunity for volatilization of volatile organic compounds to the extent possible before the stormwater can infiltrate into the ground;
- provide necessary impervious pavement in high potential pollutant release areas. These “storm water hot spots” include certain land use types or storage and loading areas, fueling areas, intensive parking areas and roadways (see table below);
- only use subsurface recharge structures such as dry wells, galleries, or leaching trenches, to directly infiltrate clean runoff such as rooftops, or other clean surfaces. These structures do not adequately allow for attenuation of salts, solvents, fuels or other soluble compounds in groundwater that may be contained in runoff; and
- restrict pavement deicing chemicals, or use an environmentally suitable substitute such as sand only, or alternative de-icing agents such as calcium chloride or calcium magnesium.

Infiltration of stormwater should be **restricted** under the following site conditions:

- ***Land Uses or Activities with Potential for Higher Pollutant Loads:*** Infiltration of stormwater from these land uses or activities (refer to Table 7-5 below), also referred to as stormwater “hotspots,” can contaminate public and private groundwater supplies. Infiltration of stormwater from these land uses or activities may be allowed by the review authority with appropriate pretreatment. Pretreatment could consist of one or a combination of the primary or secondary treatment practices described in the Stormwater Quality Manual provided that the treatment practice is designed to remove the stormwater contaminants of concern.
- ***Subsurface Contamination:*** Infiltration of stormwater in areas with soil or groundwater contamination such as brownfield sites and urban redevelopment areas can mobilize contaminants.
- ***Groundwater Supply and Wellhead Areas:*** Infiltration of stormwater can potentially contaminate groundwater drinking water supplies in immediate public drinking water wellhead areas.

Land Uses or Activities with Potential for Higher Pollutant Loads
Table 7-5 of the 2004 Stormwater Quality Manual

Land Use/Activities	
<ul style="list-style-type: none"> • Industrial facilities subject to the DEEP Industrial Stormwater General Permit or the U.S. EPA National Pollution Discharge Elimination System (NPDES) Stormwater Permit Program • Vehicle salvage yards and recycling facilities • Vehicle fueling facilities (gas stations and other facilities with on-site vehicle fueling) • Vehicle service, maintenance, and equipment cleaning facilities • Fleet storage areas (cars, buses, trucks, public works) • Commercial parking lots with high intensity use (shopping malls, fast food restaurants, convenience stores, supermarkets, etc.) • Public works storage areas 	<ul style="list-style-type: none"> • Road salt storage facilities (if exposed to rainfall) • Commercial nurseries • Flat metal rooftops of industrial facilities • Facilities with outdoor storage and loading/unloading of hazardous substances or materials, regardless of the primary land use of the facility or development • Facilities subject to chemical inventory reporting under Section 312 of the Superfund Amendments and Reauthorization Act of 1986 (SARA), if materials or containers are exposed to rainfall • Marinas (service and maintenance) • Other land uses and activities as designated by the review authority

For further information regarding the design of stormwater collection systems in Aquifer Protection Areas, contact the Aquifer Protection Area Program at (860) 424-3020 or visit www.ct.gov/deep/aquiferprotection.

Appendix D – Impaired Waters Guidance

Surface Waters and Associated Stormwater Pollutants of Concern			
Stormwater Pollutant of Concern	Waterbodies included within a TMDL or Waters Included in Pollution Control Strategy Developed by CT DEEP	Impaired waters without a TMDL	
		Impaired Designated Use	Cause
Phosphorus	Any water body subject to a TMDL pollutant load reduction for Phosphorus or any waterbody included in the Interim Phosphorus Reduction Strategy for Connecticut Freshwater Non-tidal Receiving Rivers and Streams Technical Support Document (2014 or as amended) , including but not limited to the Bantam River Watershed, Blackberry River Watershed, Factory Brook Watershed, Farmington River Watershed, Fivemile River Watershed, Hockanum River Watershed, Housatonic River Main Stem Watershed, Limekiln Brook Watershed, Naugatuck River Watershed, Norwalk River Watershed, Pequabuck River Watershed Pomperaug River Watershed, Pootatuck River Watershed, Quinebaug River Watershed, Quinnipiac River Watershed, Shetucket River Watershed or Willimantic River Watershed	Habitat for Fish, Other Aquatic Life and Wildlife or Recreation	Phosphorus, Nutrient/ Eutrophication Biological Indicators, Dissolved Oxygen, Chlorophyll-a, or Excess Algal Growth
Nitrogen	Any water body subject to a TMDL pollutant load reduction for Nitrogen, including but not limited to the Long Island Sound TMDL for Dissolved Oxygen (entire state of CT)	Habitat for Marine Fish, Other Aquatic Life and Wildlife	Dissolved oxygen saturation, Nitrogen (Total), Nutrient / Eutrophication Biological Indicators, Oxygen, Dissolved
Bacteria	Any water body subject to a TMDL pollutant load reduction for Total Coliform, Escherichia coli, Fecal coliform or Enterococci	Recreation, Existing or Proposed Drinking Water, Commercial Shellfish Harvesting Where Authorized or Shellfish Harvesting for Direct Consumption Where Authorized	Total Coliform, Escherichia coli, Fecal coliform or Enterococci
Mercury	Any water body subject to a TMDL pollutant load reduction for Mercury (Entire state of Connecticut)	Habitat for Fish, Other Aquatic Life and Wildlife or Fish Consumption	Mercury

Water Quality Targets for Waters for Which Bacteria is a Stormwater Pollutant of Concern				
Water Quality Classification	E. Coli (Freshwater Rec) (cols/100mls)	Enterococci (Marine Rec) (cols/100mls)	Fecal Coliform (Marine Shellfishing) (cols/100mls)	Total Coliform (Freshwater Drinking) (cols/100mls)
AA	Instantaneous designated swimming 235 / Non designated Swimming 410 / All other Recreation 576 Geomean 126	N/A	N/A	Monthly Moving average <100 / Single Sample Maximum 500
A	Same as AA	N/A	N/A	N/A
B	Same as AA	N/A	N/A	N/A
SA (Direct Consumption)	N/A	Instantaneous Designated Swimming 104 / Instantaneous All other Uses 500 / Geomean 35	Geomean 14 / 90% of samples <31	N/A
SB (Indirect Consumption)	N/A	Same as SA waters	Geomean 88 / 90% of samples < 260	N/A



**Connecticut Department of
Energy & Environmental Protection**
Bureau of Materials Management & Compliance Assurance
Water Permitting & Enforcement Division

General Permit Registration Form for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4)

CPPU USE ONLY	
App #:	
Doc #:	
Check #:	
Program: Stormwater Permits	

Please complete this form in accordance with the general permit ([DEEP-WPED-GP-021](#)) in order to ensure the proper handling of your registration. Please print or type unless otherwise noted. The Registration fee must be submitted with this registration.

Part I: Registration Type

1. This registration is for a (check one): <input type="checkbox"/> <i>New general permit registration</i> <input checked="" type="checkbox"/> <i>Renewal of an existing registration</i> <input type="checkbox"/> <i>A modification of an existing registration</i>	For renewals or modifications: Existing permit number: GSM <u>000046</u>
2. Registrant Type (check one):	Fees
<input type="checkbox"/> state institution/agency	\$625.00 [513]
<input type="checkbox"/> federal institution/agency	\$625.00 [513]
<input checked="" type="checkbox"/> municipality	\$312.50 [513]
3. Municipality name or Municipality where institution is located: <u>Town of Darien</u>	
The registration will not be processed without the fee. The fee shall be non-refundable and shall be paid by check or money order to the Department of Energy and Environmental Protection or by such other method as the commissioner may allow.	

Part II: Registrant Information

1. Registrant (Name of Municipality or State or Federal Institution/Agency): Town of Darien	
Mailing Address: 2 Renshaw Road	
City/Town: Darien	State: CT Zip Code: 06820
Business Phone: (203) 656-7346	ext.:
Contact Person: Edward L. Gentile Jr	Phone: (203) 656-7346 ext.
*E-mail: egentile@darienct.gov	
*By providing this e-mail address you are agreeing to receive official correspondence from DEEP, at this electronic address, concerning the subject registration. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify DEEP if your e-mail address changes.	

Part II: Registrant Information (continued)

2. Billing contact, if different than the registrant.

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

*E-mail:

3. Primary contact for departmental correspondence and inquiries, if different than the registrant.

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

*E-mail:

4. Attorney or other representative, if applicable:

Firm Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Attorney:

Phone:

ext.

*E-mail:

5. Facility Operator, if different than the registrant:

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

*E-mail:

7. Engineer(s) or other consultant(s) employed or retained to assist in preparing the registration or in designing or constructing the activity. ☐ Check here if additional sheets are necessary, and label and attach them to this sheet.

Name: **Tighe & Bond, Inc.**

Mailing Address: 1000 Bridgeport Avenue

City/Town: Shelton

State: CT

Zip Code: 06484

Business Phone: 203-712-1100

ext.:

Contact Person: Joseph Canas, PE, :LEED AP, CFM

Phone: (203) 712-1109

ext.

*E-mail: jacanas@tighebond.com

Service Provided: **Plan Preparation**

8. ☐ Check here if there are adjacent towns or other entities with which implementation of the Stormwater Management Plan is coordinated for a portion of the subject MS4. If so, provide the names of such towns or entities: _____

Part III: Watershed Information

Provide the following information about the receiving water(s) that receive stormwater runoff from your MS4: The watershed ID and impaired waters status can be found on the CT ECO website: http://ctecoapp1.uconn.edu/advancedviewer/				
a) To what receiving stream, watershed or waterbody does your MS4 discharge?	b) What is your watershed ID (freshwater) or 305b ID (estuary)?	c.1) Is the receiving water identified as an impaired water?	c.2) Has any Total Maximum Daily Load (TMDL) been approved for your receiving waterbody? For more information, go to www.ct.gov/deep/tmdl	If you answered yes to question c.1, then answer the question below. If TMDL, identify the impairment
Fivemile River	7401-00_01	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
Keelers Brook	7401-06_01	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
Noroton River	7403-00_01	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
Noroton River	7403-00_02	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
LIS WB Inner - Cove Harbor	1_015-SB	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
LIS WB Inner - Holly Pond	1_016-SB	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
LIS WB Shore - Fivemile River Estuary	2_015	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
LIS WB Shore - Scott Cove	2_016	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
LIS WB Shore - Darien Cove	2_017	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
LIS WB Midshore - Outer Fivemile Estuary	3_009	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
LIS WB Midshore - Outer Cove Harbor, Darien	3_010	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
LIS WB Offshore - Darien	4_004	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Nitrogen
		<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	
		<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	
		<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	
<input type="checkbox"/> Check here if there are more receiving watersheds and attach an additional sheet listing them with the required information requested above.				

Part IV: MS4 Information

1. Name of Municipality or State or Federal Institution/Agency : **Town of Darien**

Primary Address or Location Description: **2 Renshaw Road**

City/Town: **Darien**

State: **CT**

Zip Code: **06820**

2. **INDIAN LANDS:** Is there any activity included in, or proposed to be implemented by, your Stormwater Management Plan that will be located on federally recognized Indian lands? ☐ Yes ☒ No

3. **COASTAL BOUNDARY:** Is there any **new** activity included in, or proposed to be implemented by, your Stormwater Management Plan that will be located within the coastal boundary as delineated on DEEP approved coastal boundary maps?

☐ Yes ☒ No

If yes, and this registration is for a new authorization or a modification of an existing authorization where the physical footprint of the subject activity is modified, your Stormwater Management Plan must contain provisions to assure compliance with [Connecticut's Coastal Management Act \(CCMA\)](#), sections 22a-90 through 22a-112 of the Connecticut General Statutes (CGS), as amended.

Information on the coastal boundary is available at www.cteco.uconn.edu/map_catalog.asp (Select the town and then select coastal boundary. If the town is not within the coastal boundary you will not be able to select the coastal boundary map.) or the local town hall or on the "Coastal Boundary Map" available at DEEP Maps and Publications (860-424-3555).

4. **ENDANGERED OR THREATENED SPECIES:** According to the most current "State and Federal Listed Species and Natural Communities Map", is there any **new** activity included in, or proposed to be implemented by, your Stormwater Management Plan, that will be located within an area identified as a habitat for endangered, threatened or special concern species?

☐ Yes ☒ No Date of Map: **December 2016**

If yes, your Stormwater Management Plan must contain provisions to assure compliance with the [State Endangered Species Act CGS section 26-310\(a\)](#).

For more information visit the DEEP website at www.ct.gov/deep/nddbrequest or call the NDDB at 860-424-3011.

5. **AQUIFER PROTECTION AREAS:** Is the MS4 or any portion of the MS4 located within a mapped Level A or Level B [Aquifer Protection Area](#), as defined in CGS section 22a-354a through 22a-354bb?

☐ Yes ☒ No

If yes, your Stormwater Management Plan must contain provisions to assure compliance with the Aquifer Protection Regulations (section 22a-354i(1)-(10) of the Regulations of Connecticut State Agencies).

For more information on the Aquifer Protection Area Program visit the DEEP website at www.ct.gov/deep/aquiferprotection or contact the program at 860-424-3020.

6. **CONSERVATION OR PRESERVATION RESTRICTION:** Is there any **new** activity included in, or proposed to be implemented by, your Stormwater Management Plan that will be located within a conservation or preservation restriction area?

☐ Yes ☒ No

If Yes, your Stormwater Management Plan must contain provisions to assure compliance with CGS section 47-42d where proof of written notice of this registration to the holder of such restriction or a letter from the holder of such restriction verifying that this registration is in compliance with the terms of the restriction, must be-kept on site.

Part IV: MS4 Information (Continued)

7. **STATE AND FEDERAL HISTORIC PRESERVATION:** Is there any activity included in, or proposed to be implemented by, your Stormwater Management Plan that may result in impacts or potential effects on historic properties? ☐ Yes ☒ No

If Yes, your Stormwater Management Plan must contain provisions to assure consistency with the [state Historic Preservation statutes, regulations, and policies](#) including identification of any potential impacts on property listed or eligible for listing on the Connecticut Register of Historic Places. A review conducted for an Army Corps of Engineers Section 404 wetland permit would meet this qualification.

8. **DISCHARGE TO IMPAIRED WATERS:** Is there any activity included in, or proposed to be implemented by, your Stormwater Management Plan that will result in a **new or increased** discharge from the MS4 to waters listed as impaired in the most recent [Connecticut Integrated Water Quality Report](#) pursuant to Clean Water Act section 303(d) and 305(b)?

☐ Yes ☒ No

If Yes, your Stormwater Management Plan must demonstrate that there is no net increase in loading to the impaired water of the pollutant for which the waterbody is impaired.

9. **DISCHARGE TO HIGH QUALITY WATERS:** Any **new or increased** stormwater discharge to high quality waters shall be discharged in accordance with the Connecticut Anti-Degradation Implementation Policy in the [Water Quality Standards](#).

Part V: Supporting Documentation

Check the applicable box below for each attachment being submitted with this registration form. When submitting any supporting documents, please label the documents as indicated in this part (e.g., Attachment A, etc.) and be sure to include the registrant's name as indicated on this registration form.

- ☒ Attachment A: Stormwater Management Plan: **(REQUIRED for ALL registrants)**
☐ Provide URL: _____
or
☒ submit an electronic copy to the web address indicated at the end of this form.
- ☒ Attachment B: An 8 1/2" X 11" copy of the relevant portion or a full-sized original of a USGS Quadrangle Map indicating the exact location of the MS4/Institution/Agency. Indicate the quadrangle name on the map. **(REQUIRED for ALL registrants)**
- ☒ Attachment C: Best Management Practices Table (attached to this form) **(REQUIRED for ALL registrants)**

Part VI: Registrant Certification

The registrant *and* the individual(s) responsible for actually preparing the registration must sign this part. A registration will be considered insufficient unless *all* required signatures are provided ***and are the proper signatory authority***. (If the registrant is the preparer, please mark N/A in the spaces provided for the preparer.)

"I hereby certify that I am making this certification in connection with a registration under the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4), submitted to the commissioner by the Town of Darien for an activity located at or within the Town of Darien, and that all terms and conditions of the general permit are being met for all discharges which have been initiated and such activity is eligible for authorization under such permit. I further certify that a system is in place to ensure that all terms and conditions of this general permit will continue to be met for all discharges authorized by this general permit at the site. I certify that the registration filed pursuant to this general permit is on complete and accurate forms as prescribed by the commissioner without alteration of their text. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(8)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify that I have made an affirmative determination in accordance with Section 3(b)(8)(B) of this general permit. I understand that the registration filed in connection with such general permit is submitted in accordance with and shall comply with the requirements of section 22a-430b of Connecticut General Statutes. I also understand that knowingly making any false statement made in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature of Registrant/Authorized Representative

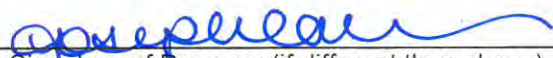
Date

Jayme Stevenson

First Selectman

Printed Name of Registrant/Authorized Representative

Title (if applicable)



Signature of Preparer (if different than above)

March 31, 2017

Date

Joseph Canas, PE, LEED AP, CFM

Project Manager

Printed Name of Preparer

Title (if applicable)



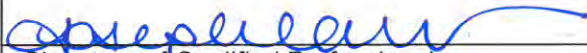
Check here if additional signatures are required. If so, please reproduce this sheet and attach signed copies to this sheet. Signatures of any person preparing any report or parts thereof required in this registration (i.e., professional engineers, surveyors, soil scientists, consultants, etc.) must be included.

Part VII: Qualified Professional Certification

The qualified professional, as defined in the subject general permit, must sign this part. A registration will be considered insufficient unless *all* required signatures are provided **and are the proper signatory authority**.

"I hereby certify that I am a qualified professional engineer, as defined in the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems. I am making this certification in connection with a registration under such general permit, submitted to the Commissioner by the Town of Darien for an activity located at or within the Town of Darien. I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(9)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify, based on my review of all information described in Section 3(b)(9)(A) of such general permit and on the standard of care for such projects, that I have made an affirmative determination in accordance with Section 3(b)(9)(B) of this general permit. I understand that this certification is part of a registration submitted in accordance with section 22a-430b of Connecticut General Statutes and is subject to the requirements and responsibilities for a qualified professional in such statute. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

Nothing in this section shall be construed to authorize a professional engineer or a landscape architect to engage in any profession or occupation requiring a license under any other provision of the general statutes without such license.


Signature of Qualified Professional

March 31, 2017
Date

Joseph Canas, PE, LEED AP, CFM
Printed Name of Qualified Professional

Project Manager
Title (if applicable)

CT PE #20873
Qualified Professional License Number

Signature of Preparer (if different than above)

Enter Date
Date

Enter Name
Printed Name of Preparer

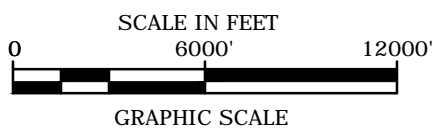
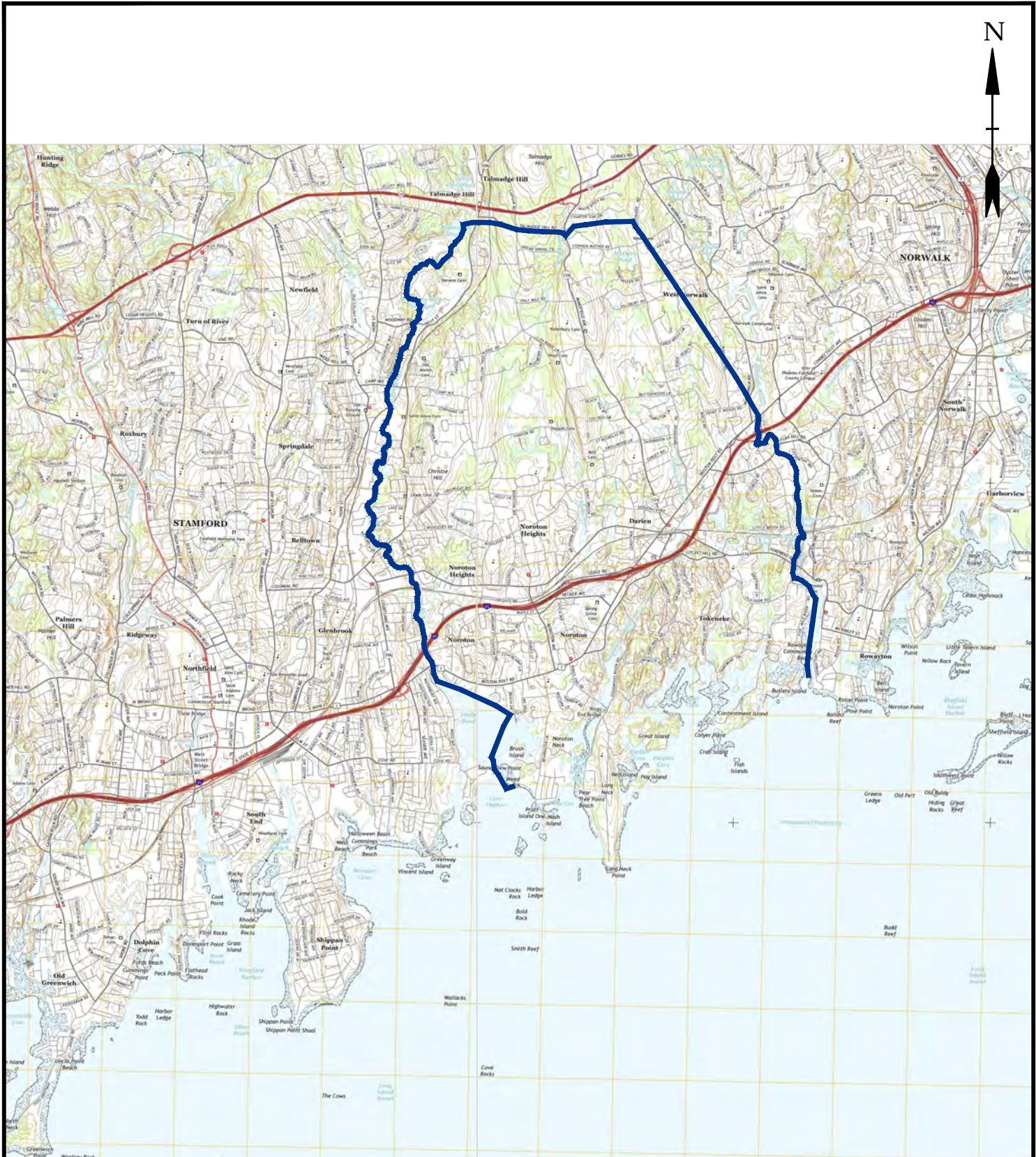
Enter Title
Title (if applicable)

☐ Check here if additional signatures are required. If so, please reproduce this sheet and attach signed copies to this sheet. Signatures of any person preparing any report or parts thereof required in this registration (i.e., professional engineers, surveyors, soil scientists, consultants, etc.) must be included.

All completed and supporting materials (along with the fee) are to be submitted to:
CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

An electronic copy must also be sent to DEEP.StormwaterStaff@ct.gov

Mar 28, 2017 1:51pm Plotted By: ras1
Tighe & Bond, Inc. J:\D\0328 Town of Darien DPW\05_2017 Stormwater Management Plan\Drawings_Figures\AutoCAD\Sheet\USGS Figure 1.dwg



DARIEN MS4
DARIEN, CT

MS4 BOUNDARY

DATE: 03/28/2017

SCALE: 1" = 6,000'

FIGURE 1

Tighe & Bond
www.tighebond.com

Best Management Practices (BMPs)

For each Minimum Control Measure (MCM), list existing or proposed BMPs, the department/parties that will be responsible for implementing each BMP, the goals(s) you expect to achieve, and the month and year that the BMP will be implemented. Please note that certain mandatory minimum BMPs identified in the MS4 General Permit are already listed.

Name of City/Town: **Town of Darien**

Name of Institution (if applicable):

Address:

Existing permit number (if applicable): GSM **000046**

	MCM(1) Public Education and Outreach	Responsible Department/Parties	Measurable Goal	Month/Year of Implementation
1-1	Implement public education program	Director of Public Works	Develop and expand library of stormwater educational materials by creating or obtaining at least one brochure, presentation, and/or flyer related to potential and existing stormwater pollution sources (specifically, phosphorus, nitrogen, bacteria, and mercury), the environmental impacts of these pollutants, and related pollution reduction practices. Develop and implement schedule to reach out to members of the Darien community, including residents, business owners, students, municipal staff, contractors and developers. Disseminate content to the community through a stormwater page on the Town website, through providing materials to Town offices, and sharing messages to public access television stations as appropriate.	07/2022
1-2	Address education/outreach for pollutants of concern	Director of Public Works	Develop or procure and disseminate one or more brochures, flyers, web-based tools, and/or presentations that highlight	07/2022

			the potential sources, impacts, and solutions for stormwater pollutants of concern (specifically, phosphorus, nitrogen, bacteria, and mercury). Incorporate material(s) into the public education process developed in BMP 1.1, and deliver to the Darien community through appropriate channels. Partner with local organizations as appropriate to develop and disseminate materials.	
1-3	Establish Stormwater Page on Town Website	Director of Public Works	Update and maintain stormwater-specific webpage on the Town website with public educational outreach information and materials related to stormwater quality and pollutants of concern (specifically nitrogen, phosphorus, bacteria, and mercury).	07/2022
1-4				
1-5				
1-5				
1-7				
1-8				
1-9				
1-10				
	MCM(2) Public Involvement/Participation	Responsible Department/Parties	Measurable Goal	Month/Year of Implementation
2-1	Comply with public notice requirements for the Stormwater Management Plan and Annual Reports	Director of Public Works	Publish a public notice for the MS4 Plan and Annual report by January 31st each year to the Town website. Accept comments from the public for a 30-day period on the Plan and Annual report each year.	07/2022
2-2	Partner with Local Volunteer Organizations	Director of Public Works	Review MS4 plan and identify opportunities to engage with local organizations in	07/2022

			implementing the plan. Contact at least one local organization and/or school annually to engage them in plan implementation and related programs, such as volunteer opportunities and town cleanup days.	
2-3	Conduct Household Hazardous Waste Collection	Director of Public Works	Conduct at least one Household Hazardous Waste Collection Day per year for the Darien community. Notify residents about Household Hazardous Waste Collection dates through the Town website.	07/2022
2-4				
2-5				
2-6				
2-7				
2-8				
2-9				
2-10				

BMPs (continued)

	MCM(3) Illicit Discharge Detection & Elimination	Responsible Department/Parties	Measurable Goal	Month/Year of Implementation
3-1	Develop written IDDE program	Director of Public Works	Develop and implement written IDDE program, following the guidelines and IDDE protocol listed in Appendix B of the permit.	07/2022
3-2	Develop list and maps of all MS4 stormwater outfalls in urbanized and priority areas	Director of Public Works	Develop and maintain a list and GIS-based map of all stormwater discharges from a pipe or conduit located within and owned/operated by the Town, and all interconnections with other MS4s.	07/2022
3-3	Develop citizen reporting program	Director of Public Works	Develop and implement program to track citizen complaints concerning illicit discharges. Provide reporting process guidelines and contact information on the future Stormwater page of the Town website. Promptly investigate and document discharges reported by citizens, and update the IDDE program and Annual Report as needed with information on reported illicit discharges.	07/2022
3-4	Establish legal authority to prohibit illicit discharges	Director of Public Works	Establish legal authority in the Town to eliminate illicit discharges. Implement and enforce the ordinance.	07/2022
3-5	Develop record keeping system for IDDE tracking	Director of Public Works	Develop and implement documentation procedures for illicit discharge abatement activities. Update Annual Report with required abatement activity information pursuant to the updated MS4 permit.	07/2022
3-6	Address IDDE in areas with pollutants of concern	Director of Public Works	Identify locations within Darien at risk of pollution	07/2022

			by bacteria, phosphorus, and nitrogen, and explicitly prioritize these areas within the written IDDE program. Update the Annual Report with information on the prioritized areas, actions taken by the Town to address these areas, and the anticipated pollutant reduction.		
3-7					
3-8					
3-9					
3-10					
	MCM(4) Construction Site Runoff Control	Responsible Department/Parties	Measurable Goal	Month/Year of Implementation	
4-1	Implement, upgrade (as necessary) and enforce land use regs or other legal authority to meet requirements of MS4 general permit	Director of Public Works	Continue to require developers, construction site operators, or contractors maintain consistency with the 2002 Guidelines for Soil Erosion and Sedimentation Control, as amended, the CT Stormwater Quality Manual, and all stormwater discharge permits issued by CTDEEP within the municipal or institutional boundary pursuant to CGS 22a-430 and 22a-430b.	07/2022	
4-2	Develop/implement plan for interdepartmental coordination in site plan review and approval	Director of Public Works	Develop and follow an Interdepartmental Coordination Plan for the management of stormwater quality.	07/2022	
4-3	Review site plans for stormwater quality concerns	Director of Public Works	Review and update, if needed, the Town site review and inspection process by July 1, 2017. Continue the review and inspection process throughout the duration of the permit.	07/2022	
4-4	Conduct site inspections	Director of Public Works	Establish, by July 1, 2019, a	07/2022	

			standard condition of approval that will obligate the applicant/landowner to carry out all inspection, surveillance and monitoring procedures necessary to comply with municipal regulations, ordinances or programs or institutional requirements related to the MS4, and requiring the condition to run with the land in perpetuity. Conduct inspection at existing locations, where allowed per access agreement(s), to inventory the number of privately-owned retention ponds, detention ponds, and other stormwater basins that discharge to or receive drainage from the permittee's MS4. Inventory the number of privately-owned retention ponds, detention ponds, and other stormwater basins that discharge to or receive drainage from the Town's MS4.	
4-5	Implement procedure to allow public comment on site development	Director of Public Works	Develop and implement a written procedure for collecting and reviewing citizen feedback regarding proposed and ongoing land disturbance and development activities by July 1, 2017, and continue to follow the procedure through the duration of the permit.	07/2022
4-6	Implement procedure to notify developers about DEEP construction stormwater permit	Director of Public Works	Evaluate its procedure for notifying developers or contractors about the potential need for DEEP's General Permit by July 1, 2017, and modify as needed.	07/2022

			Continue to provide notification throughout the permit term.	
4-7	Require Maintenance and Operation Plans	Director of Public Works	Evaluate and update existing Town regulations, by July 1, 2019, to require that all owners of sites seeking development approval from the Town provide and comply with a long-term maintenance plan and schedule to ensure the performance and pollutant-removal efficiency of privately-owned retention ponds, detention ponds, and other stormwater basins that discharge to or receive discharge from the Town's MS4.	07/2022
4-8	Interjurisdictional Agreements	Director of Public Works	Establish by July 1, 2019 one or more interjurisdictional agreements that describe the Town's control over contribution of pollutants between the Town's MS4 and MS4s owned and operated by others.	07/2022
4-9				
4-10				

BMPs (continued)

	MCM(5) Post-Construction Stormwater Management	Responsible Department/Parties	Measurable Goal	Month/Year of Implementation
5-1	Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning	Director of Public Works	Review existing ordinances and procedures related to low impact design and runoff reduction in site development planning, and will update them as needed to maintain consistency with the updated MS4 regulations.	07/2022
5-2	Enforce LID/runoff reduction requirements for development and redevelopment projects	Director of Public Works	Establish regulations to require any party responsible for development and redevelopment projects within its MS4 to first consider implementation of runoff reduction/LID measures as specified in the MS4 permit.	07/2022
5-3	Implement long-term maintenance plan for stormwater basins and treatment structures	Director of Public Works	For Town-owned stormwater treatment practices, develop and implement a long-term maintenance plan by July 1, 2019 in the UA and those catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters and which discharge to or receive stormwater from its MS4. For new privately-owned system, require maintenance and operations plans and require records to be kept by the owner, to be produced to the Town upon request.	07/2022
5-4	DCIA mapping	Director of Public Works	Calculate the DCIA that contributes stormwater runoff to each MS4 outfall by July 1, 2020, and update calculations as DCIA is added or removed within the Town.	07/2022

5-5	Address post-construction issues in areas with pollutants of concern	Director of Public Works	Identify water quality problems associated with stormwater pollutants of concern through citizen complaints, outfall screening, or observations through normal maintenance activity throughout the duration of the permit. Develop, fund, implement, and prioritize corrections to these to identified erosion and sediment problems in impaired waters. Corrections will take place in specific timeframes and will establish short-term and long-term maintenance solutions to the problem.	07/2022
5-6	Reduction of Turfed Areas	Director of Public Works	Consider requirements for turf area reduction in their updated regulations and policies (concurrent with BMP 5.2).	07/2022
5-7	Require Consistency with Stormwater Quality Manual	Director of Public Works	Review the Town's Stormwater management Regulations for consistency with new amendments to the 2004 Stormwater Quality Manual yearly, and update the Town's regulations where the Manual is more stringent than the Town's regulations.	07/2022
5-8	Coordination with Local Health District	Director of Public Works	The Town Public Works Department shall coordinate yearly with the local Health Department regarding coordination of the MS4 Plan requirements, to ensure that plans involving infiltration on lots served by subsurface sewage disposal system are reviewed in accordance with the permit.	07/2022

5-9					
5-10					Month/Year of Implementation
	MCM(6) Pollution Prevention/Good Housekeeping	Responsible Department/Parties	Measurable Goal		
6-1	Develop/implement formal employee training program	Director of Public Works	Continue providing on-the-job instruction and training to new and existing municipal employees related to stormwater management.		07/2022
6-2	Implement MS4 property and operations maintenance	Director of Public Works	Evaluate the use, storage, and disposal of petroleum and non-petroleum products at municipal facilities, and shall update on-the-job training procedures to ensure that employees responsible for handling these products know the proper procedures for doing so. Develop and implement (i) Spill Prevention Plans as appropriate; (ii) management procedures for waste management equipment, including dumpsters; and (ii) plans to sweep parking lots and keep facilities and their surrounding areas clean. Evaluate impacts of vehicle wash areas at public facilities, and implement best management practices to mitigate their impacts on water quality. Ensure that all interior building floor drains in Town-owned facilities are not connected to the MS4. Items (i) and (ii) will be handled as part of the Town's Industrial Stormwater Permit for its facilities.		07/2022
6-3	Implement coordination with interconnected MS4s	Director of Public Works	Coordinate with operators of interconnected MS4s (such as neighboring municipalities, institutions,		07/2022

		and the CT Department of Transportation) regarding (i) the contribution of potential pollutants from the storm sewer systems, (ii) contributing land use areas, (iii) stormwater control measures in the respective MS4s, and (iv) operation and maintenance procedures in the respective systems.		
6-4	Develop/implement program to control other sources of pollutants to the MS4	Annually review the list of stormwater general permit registrants, and identify non-permitted locations which may be significant contributors based upon the screening and monitoring results.	Director of Public Works	07/2022
6-5	Evaluate additional measures for discharges to impaired waters	Please refer to BMP 6.12, Parks and Open Space. Please refer to BMP 6.13, Pet Waste Management and BMP 6.14, Waterfowl Management.	Director of Public Works	07/2022
6-6	Track projects that disconnect DCIA	Track DCIA coverage annually, identify sites eligible for the 5-year "look back" credit, and develop a written Retrofit program by July 1, 2020, with a goal of reducing overall DCIA by 2% by July 1, 2022.	Director of Public Works	07/2022
6-7	Develop/implement infrastructure repair/rehab program	Review, update (as needed), and continue to implement an internal policy on infrastructure repair, rehabilitation and retrofits for MS4 structures to eliminate the discharge of pollutants into water bodies.	Director of Public Works	07/2022
6-8	Develop/implement plan to identify/prioritize retrofit projects	Identify, inventory, and prioritize repairs needed for MS4 infrastructure. Document which repairs have been made, and update	Director of Public Works	07/2022

		the documentation based on inspections conducted by the MS4 and as new information about discharges and/or impaired waters becomes available.	
6-9	Develop/implement street sweeping program	<p>Assess and update the existing street sweeping program in the Town to ensure compliance with the updated MS4 permit.</p> <p>Develop and implement a procedure for identifying targeted areas for additional street sweeping; establish a schedule for street sweeping to ensure minimum frequency is met for areas inside and outside areas with DCIA greater than 11% and/or in the Urbanized Area; and document results of sweeping program, including inspection results, dates of sweeping, curb miles swept, volume/mass of material collected, and method(s) of reuse of disposal.</p>	07/2022
6-10	Develop/implement catch basin cleaning program	<p>Continue conducting routine cleaning of all catch basins, and will track catch basin inspection observations.</p> <p>Develop a plan within the first year for catch basin inspection and maintenance.</p> <p>Update the MS4 Annual Report each year to include the total number of catch basins, the number inspected and/or cleaned, the total volume/mass of material removed from all catch basins, and if possible, the volume/mass of material removed from each catch basin draining to</p>	07/2022

6-11	Develop/implement snow management practices		water quality-limited waters. Develop and implement a written snow and ice management plan, including protocols for staff training and record maintenance and updated standard operating practices. Provide appropriate secondary containment for any exterior containers of liquid deicing materials. The Town shall also document in its Annual Report the results of its snow removal program, including details on methods, materials used, lane-miles treated, staff training, program changes, and snow disposal methods.	07/2022
6-12	Parks and Open Space	Director of Public Works	Continue to follow existing optimization procedures for the application of fertilizers and proper disposal of grass clippings and leaves for Town-owned and -operated facilities, and document method of storage and quantities of fertilizer used.	07/2022
6-13	Pet Waste Management	Director of Public Works	Identify locations within the community where pet waste threatens receiving water quality, and shall implement and enforce targeted management efforts to mitigate the impacts of pet waste. Install educational signage, pet waste baggies, and/or disposal receptacles at recreational locations within the Town where dog walking is allowed.	07/2022
6-14	Waterfowl Management	Director of Public Works	Develop and implement a plan to discourage the feeding of waterfowl through (i) identification of lands	07/2022

			where waterfowl congregate, (ii) targeted techniques to educate the public about their detrimental impacts on stormwater quality, and (iii) use targeted techniques discourage the waterfowls' congregation.	
6-15	Mitigate Stormwater Quality Impacts of Town-Owned Vehicles and Equipment	Director of Public Works	Review and update (as needed) procedures for the storage and maintenance of Town-owned or operated vehicles and fueling areas, and procedures for proper maintenance and discharge of vehicle wash waters.	07/2022
	Monitoring Requirements	Responsible Department/Parties	Measurable Goal	Month/Year of Implementation
S-1	Outfall screening	Director of Public Works	Begin screening in accordance with the Written IDDE Plan	07/2018
S-2	Inventory and mapping of discharges to impaired waters	Director of Public Works	Begin inventory and discharge mapping to impaired waters	12/2017
S-3	Follow-up investigations of drainage areas	Director of Public Works	Begin follow-up investigations where screening indicates potential pollutant source contributions	07/2018
S-4	Annual monitoring of priority outfalls	Director of Public Works	Select 6 outfalls and begin annual monitoring	07/2020

Factsheet: Town of Darien Water Quality and Stormwater Summary

This document was created for each town that has submitted monitoring data under the current Small Municipal Separate Storm Sewer System (MS4) General Permit. What follows is information on how stormwater can affect water quality in streams and rivers and a summary of data submitted by your town. This factsheet is intended to help you interpret your monitoring results and assist you in compliance with the MS4 program.

Water Quality in Connecticut

Surface waters are important resources that support numerous uses, including water supply, recreation, fishing, shellfishing and sustaining aquatic life. Water quality conditions needed to support these uses are identified within the Connecticut Water Quality Standards (WQS). In order to protect and restore these uses, we need acceptable environmental conditions (physical, chemical and biological) to be present within surface waters.

To assess and track water quality conditions, CT DEEP conducts monitoring across the State. The data is synthesized into a biennial state water quality report called the Integrated Water Quality Report. Currently, specific water quality monitoring in the state encompasses about 50% of rivers, 47% of lakes, and 100% of estuary/coastline. In addition, CT DEEP may have information about certain land uses or discharges which could indicate a potential for water quality to be impacted, even if the waterbody has not been fully monitored and assessed.

To find more detailed information on water quality in your town, please see the Integrated Water Quality Report (IWQR) on the CT DEEP website at www.ct.gov/deep/iwqr. Information on water quality within your town is also presented on the maps included in this fact sheet.

Impacts of Impervious Cover on Water Quality

Impervious cover (IC) refers to hard surfaces across the landscape such as roads, sidewalks, parking lots and roofs. Studies have focused on the amount of hard surfaces to evaluate the impacts of stormwater runoff from these hard surfaces on water quality and found that IC affects both the quantity and quality of stormwater. IC forces rain to runoff the land, carrying pollutants quickly and directly to lakes and streams instead of soaking into the ground and being filtered by the soil. For more information on impervious cover, please see the CT DEEP web page www.ct.gov/deep/imperviouscoverstudies and EPA's web page www.epa.gov/caddis/ssr_urb_isl.html.

In general, the higher the percentage of IC in a watershed, the poorer the surface water quality. Research in Connecticut strongly suggests that aquatic life will be harmed when the IC within a

watershed exceeds 12%. Stormwater pollution from IC is a likely cause of impairment for these waterbodies.

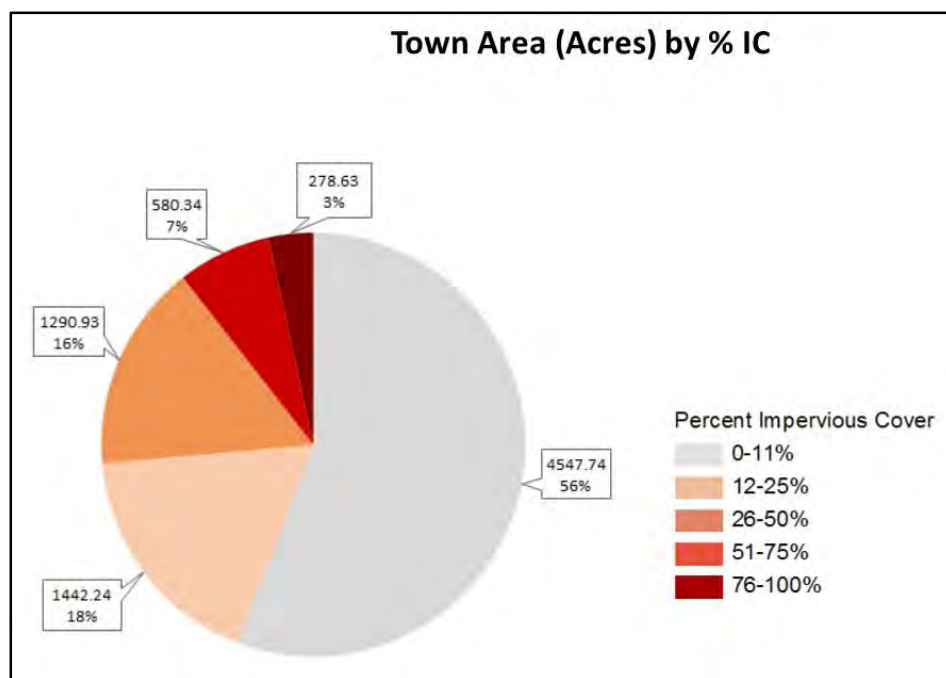
Town of Darien: Impervious Cover Data

This chart shows the amount of area within your town that contains IC. Data is grouped by acres and percent IC. While all levels of IC can contribute stormwater to streams, it is important to note that land with IC greater than 12% in town is likely to be contributing enough stormwater to streams to have a negative impact on water quality.

Towns should aim to make stormwater improvements in areas with IC greater than 12% in an effort to reduce the amount of stormwater pollution reaching surface waters which will protect and improve water quality.

For more information on areas of impervious cover within your town, please see the maps at the back of this factsheet.

Amounts of Impervious Cover within the Town of Darien



Pollution Reduction

Waterbodies often can handle a certain amount of pollutants and still maintain good water quality. However, impaired waterbodies have too much pollution impacting their water quality and therefore the streams do not support all uses for the waterbody. Total Maximum Daily Loads (TMDLs) are pollution reduction budgets developed for impaired waterbodies in order to meet water quality. If the pollution budget is achieved through the recommended pollution reduction measures, then the waterbody is expected to meet water quality. CT DEEP also supports

impaired waters restoration through watershed based plans (www.ct.gov/deep/watershed) which provide more specific non-point source pollution control measures. The following TMDLs or pollution reduction strategies have been developed and apply to areas within your town.

TMDLs or Strategies Applicable to the Town of Darien

Name of TMDL or Strategy	Pollutant	Waterbody Name	Link
Statewide Bacteria TMDL	Bacteria	Five Mile River / Keelers Brook / Holy Ghost Father's Brook	www.ct.gov/deep/lib/deep/water/tmdl/statewidebacteria/fivemileriver7401.pdf
Statewide Bacteria TMDL	Bacteria	Estuary 3: Darien	www.ct.gov/deep/lib/deep/water/tmdl/statewidebacteria/estuary3darien.pdf
Statewide Bacteria TMDL	Bacteria	Southwest Shoreline / Indian River	www.ct.gov/deep/lib/deep/water/tmdl/statewidebacteria/southwestshoreline7000.pdf
A TMDL Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound	Nitrogen	Long Island Sound and contributing watersheds	www.ct.gov/deep/lib/deep/water/lis_water_quality/nitrogen_control_program/tmdl.pdf
Northeast Regional Mercury TMDL	Mercury	All CT Inland waters	www.ct.gov/deep/lib/deep/water/tmdl/tmdl_final/ne_hg_tmdl.pdf
Interim Phosphorus Reduction Strategy	Phosphorus	Certain CT Inland waters	www.ct.gov/deep/lib/deep/water/water_quality_standards/p/interimmgntphosstrat_042614.pdf

For more information on these TMDLs or strategies please go to our website www.ct.gov/deep/tmdl.

Stormwater Quality Monitoring

Regular monitoring for targeted pollutants in stormwater provides an indication of potential for water quality impacts and helps identify sources and unlawful discharges. Annual monitoring at 6 locations from different areas of town has been a requirement of the MS4 permit since 2004. CT DEEP uses that information to evaluate the quality of stormwater and the potential for impacts to surface waters as well as to make sure that stormwater is managed properly.

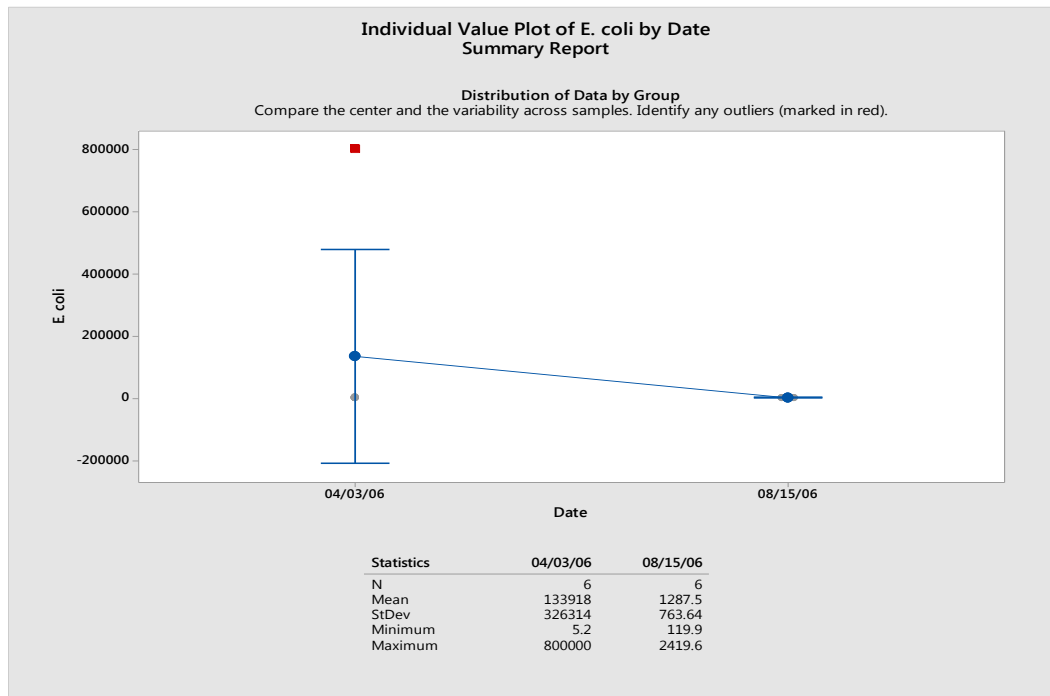
Below are 5 graphs tracking stormwater results submitted by your town for 5 parameters reported under the current MS4 General Permit. The results of each stormwater test submitted to CT DEEP by your town is shown. Individual sample results are shown in grey while the average of the samples collected on a particular day is shown in blue, with a line connecting the averages for the various sample dates. The bars show the statistical range of samples for each day with the red squares showing results which are considered to be outliers, that is, very different from the other samples collected on that day. The chart on the graph lists the sample dates and some basic statistics:

Statistic	Description
N	Number of stormwater samples collected on that date
Mean	Average of the results reported for that sample date
Standard Deviation (StdDev)	A measure of the variability of the results for the sample date
Minimum	The lowest sample result for the sample date
Maximum	The highest sample result for the sample date

Bacteria

Escherichia coli (*E. coli*) is a bacteria that lives in the intestines of humans and other warm-blooded animals and is used to indicate the presence of fecal matter in surface waters. Some strains of *E. coli* and other pathogens found in fecal material cause serious illness in people coming in contact with it. For this reason, high amounts of bacteria will cause authorities to close beaches for swimming. Bacteria is measured as the number of colony forming units, or CFU, per 100 ml of water. Any result that was reported as “to numerous to count” is included on the chart as 800,000 CFU/100 mL.

Results of annual stormwater monitoring under MS4 permit for *E.coli* (CFU/ 100 mL of sample)
Town of Darien



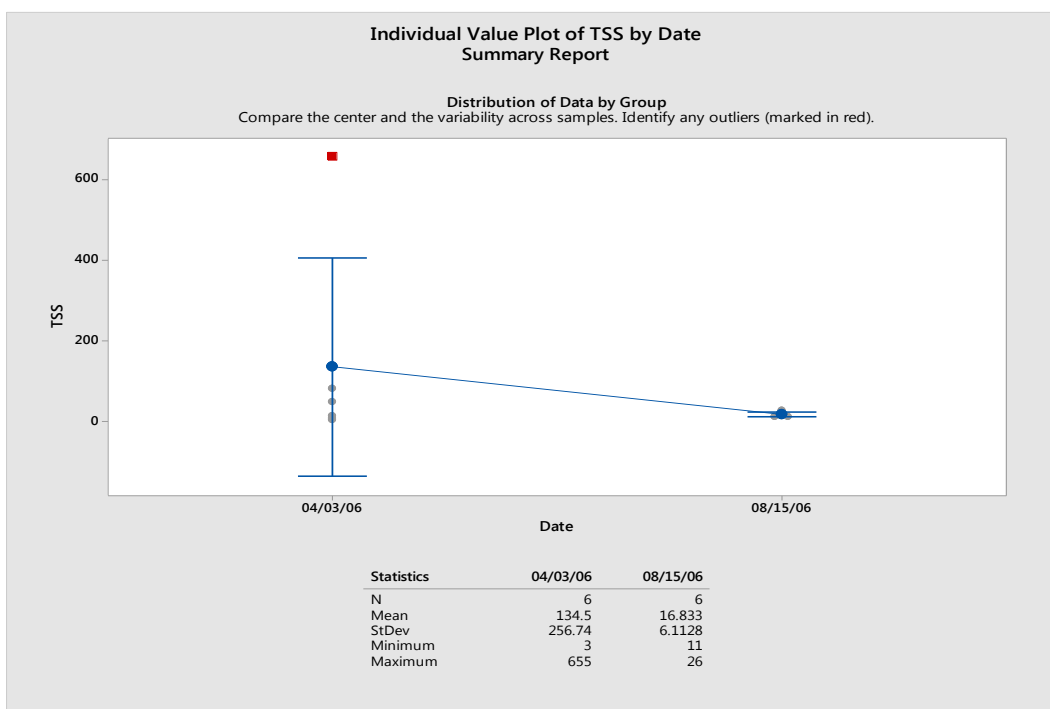
To support recreational uses of surface waters, the CT DEEP Water Quality Standards indicate that the average amount of *E. coli* found in a freshwater water body should be less than 126 CFU/100 mL and that a single sample tested for *E. coli* should be less than 235 CFU/100 mL at a designated swimming area and less than 410 CFU/100 mL in other areas. Monitoring for *E. coli* is currently required in the MS4 permit. Enterococci is another bacteria used to indicate the presence of fecal material in salt water environments. For recreation in salt water the Water Quality Standards indicate that average amount of Enterococci should be less than 35 CFU/100 mL in a designated swimming area and that a single sample tested for Enterococci should be less than 104 CFU/100 mL and in all other areas less than 500 CFU/100 mL. These targets have been included in the statewide bacteria TMDLs. In the Draft MS4 permit, *E.coli* results higher than 235 CFU/100 mL at a designated swimming area or greater than 410 CFU/100 mL in other areas requires a follow-up investigation. Individual stormwater sample results that exceed the applicable single sample maximum value for bacteria could impact water quality, so the associated outfalls should be evaluated for additional stormwater management.

Total Suspended Solids

Total Suspended Solids (TSS) is a measurement of the amount of solids (including sand and silt) found in the stormwater sample. High concentrations of TSS can lower water quality in the receiving stream by transporting various pollutants to the waterbody where they can directly affect aquatic life or affect aquatic life by absorbing light, reducing photosynthesis, and by making the water warmer. TSS can also clog fish gills and smother fish eggs and suffocate the organisms that fish eat. TSS comes from erosion and is found in agricultural, urban and industrial runoff. TSS can be reduced by protecting land from erosion and allowing stormwater time to settle before discharging to surface waters.

Results of annual stormwater monitoring under the MS4 general permit for TSS (mg/L)

Town of Darien

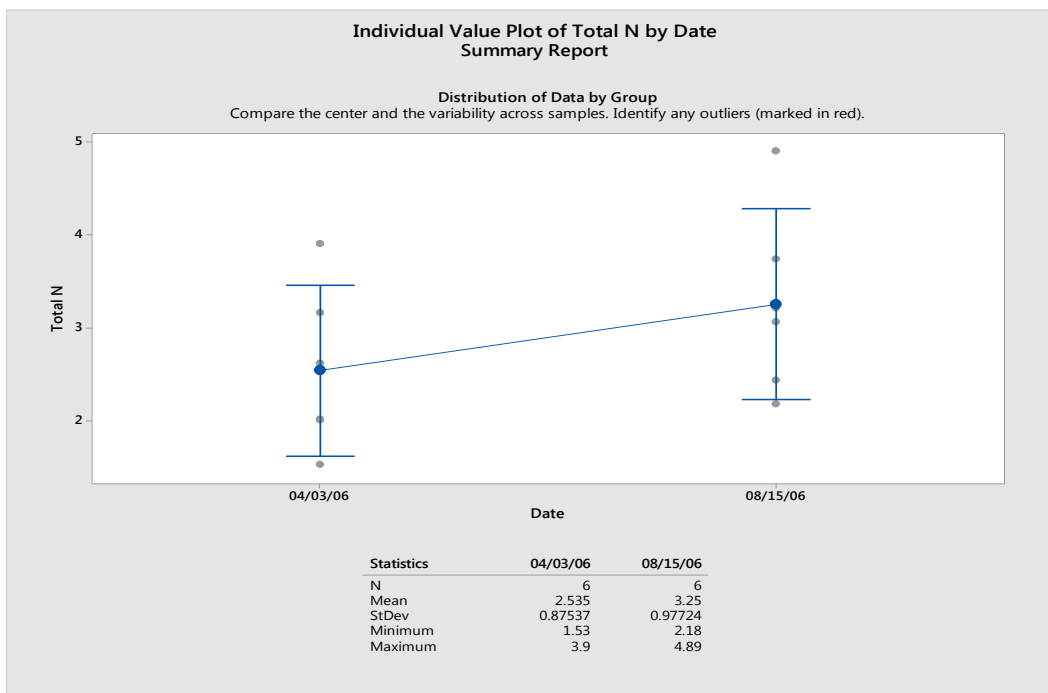


Currently, there is not a water quality based target for TSS in stormwater but TSS is a general indicator of water quality and, lower amounts of TSS are better. For comparison purposes, the average MS4 stormwater result reported for TSS by all towns covered by this permit is 48 mg/L. Areas within your town which have elevated TSS may be places to consider additional stormwater management efforts.

Total Nitrogen

Nitrogen is an important nutrient in marine and estuarine waters such as Long Island Sound, as well as a concern in fresh water lakes and rivers. High amounts of nitrogen can lead to excessive growth of water plants and algae which then reduces the amount of oxygen available to living things in these waters. Unlawful discharges, animal waste, failing septic systems, leaves, litter and fertilizers are common sources of high nitrogen in stormwater. Responsible use of fertilizers, maintaining septic systems and proper disposal of pet waste will help reduce nitrogen in stormwater.

Results of annual stormwater monitoring under MS4 general permit for total nitrogen (Total N mg/L) Town of Darien

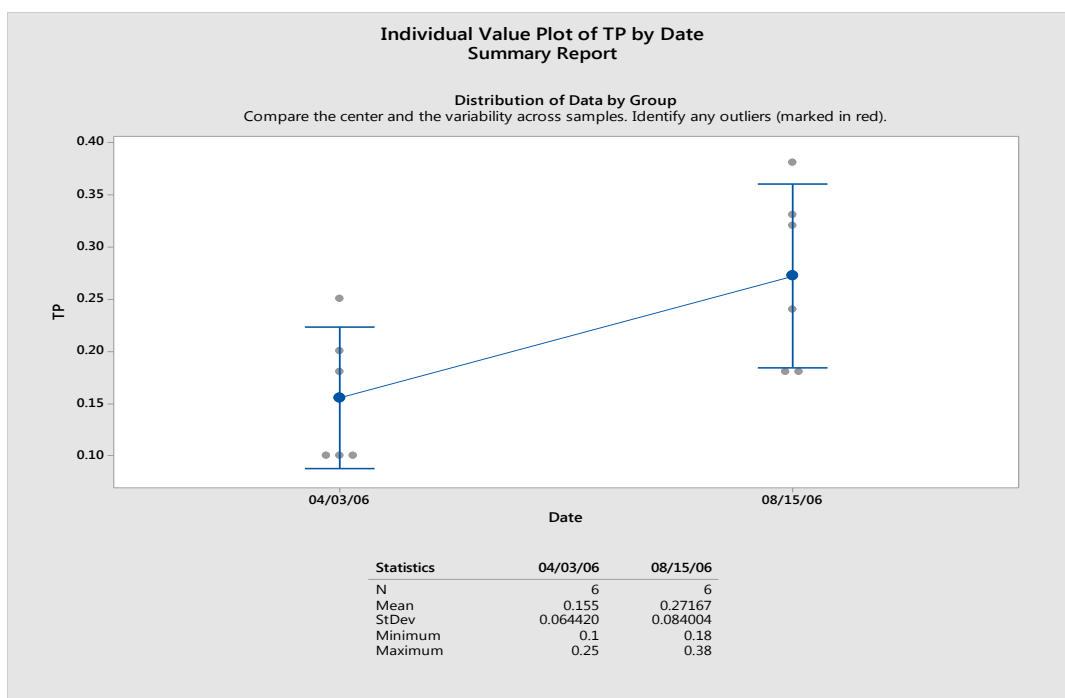


The TMDL for Long Island Sound requires a 10% reduction of nitrogen in stormwater discharges to prevent low oxygen conditions in Long Island Sound. Each town should be working to reduce the amount of nitrogen in their stormwater to address this issue. Under the current draft MS4 permit, any result for total nitrogen greater than 2.5 mg/L will require a follow-up investigation. Areas within your town which have elevated nitrogen may be places to consider additional stormwater management activities.

Total Phosphorus

Phosphorus is an important nutrient necessary for growth in plants and animals in freshwater. Too much phosphorus in the water can throw off the balance of aquatic ecosystems causing excessive growth of water plants and algae blooms, which reduces the amount of oxygen in the water, potentially harming the fish. Sometimes these algae blooms can contain toxic forms of algae which are harmful to people and animals that come into contact with it. Sources of high phosphorus can be unlawful discharges, fertilizers, litter, leaves, erosion and animal waste.

Results of annual stormwater monitoring under MS4 permit for total phosphorus (mg/L) Town of Darien

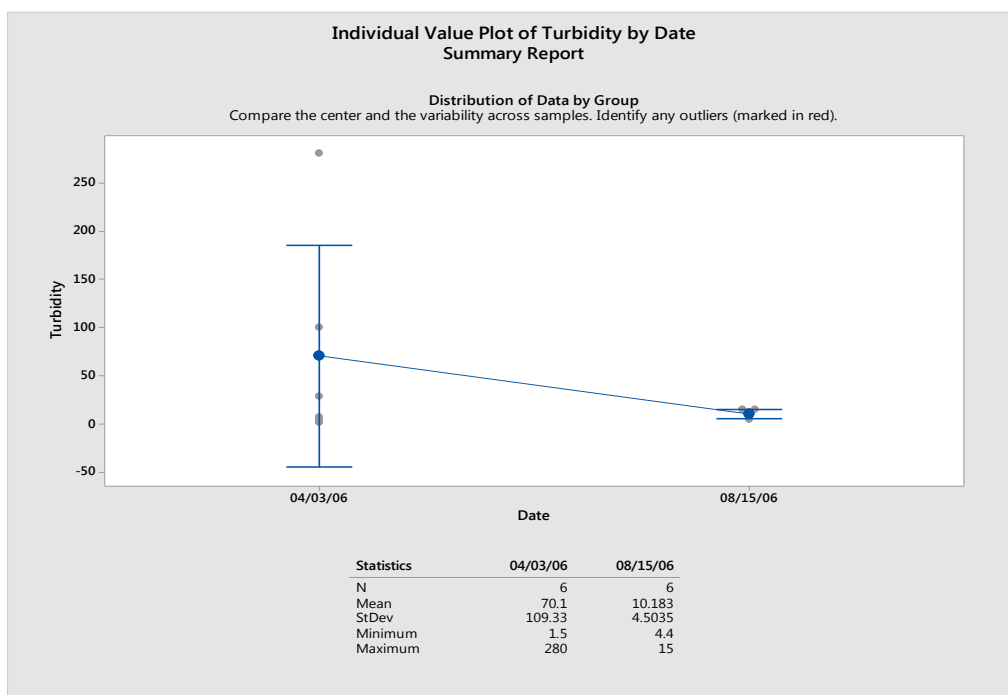


CT DEEP is actively working with many towns to reduce the amount of phosphorus reaching Connecticut's streams and rivers. Under the current draft MS4 permit, a total phosphorus result greater than 0.3 mg/L will require a follow-up investigation. Areas of your town that have elevated levels of phosphorus in the stormwater are good places to develop additional stormwater controls.

Turbidity

Turbidity measures the clarity of the stormwater sample. It measures how much material (soil, algae, pollution, microbes etc.) is suspended in the sample. High turbidity lowers the water quality of a surface water by blocking sunlight for the plants and makes food harder for the fish to find and may be an indication of a higher amounts of other pollution in the water. Surface waters with high turbidity are visually less appealing for recreational use. High turbidity can be caused by erosion, failing septic systems, decaying plants or animals, and excessive algae growth. Turbidity is reported in Nephelometric Turbidity Units (NTU) which is related to how easily light passes through the water sample.

Results of annual stormwater monitoring under MS4 permit for turbidity (NTU) Town of Darien



The Water Quality Standards have a criterion that indicates turbidity should not to exceed 5 NTU above ambient levels. In the draft MS4 permit, a turbidity result greater than 5 NTU over in-stream conditions will require a follow-up investigation. While there is not a fixed statewide criterion for turbidity, lower results are better for the health of the surface waters in town. Areas with higher levels of turbidity in stormwater would be a good place to develop additional stormwater controls.

Town Maps

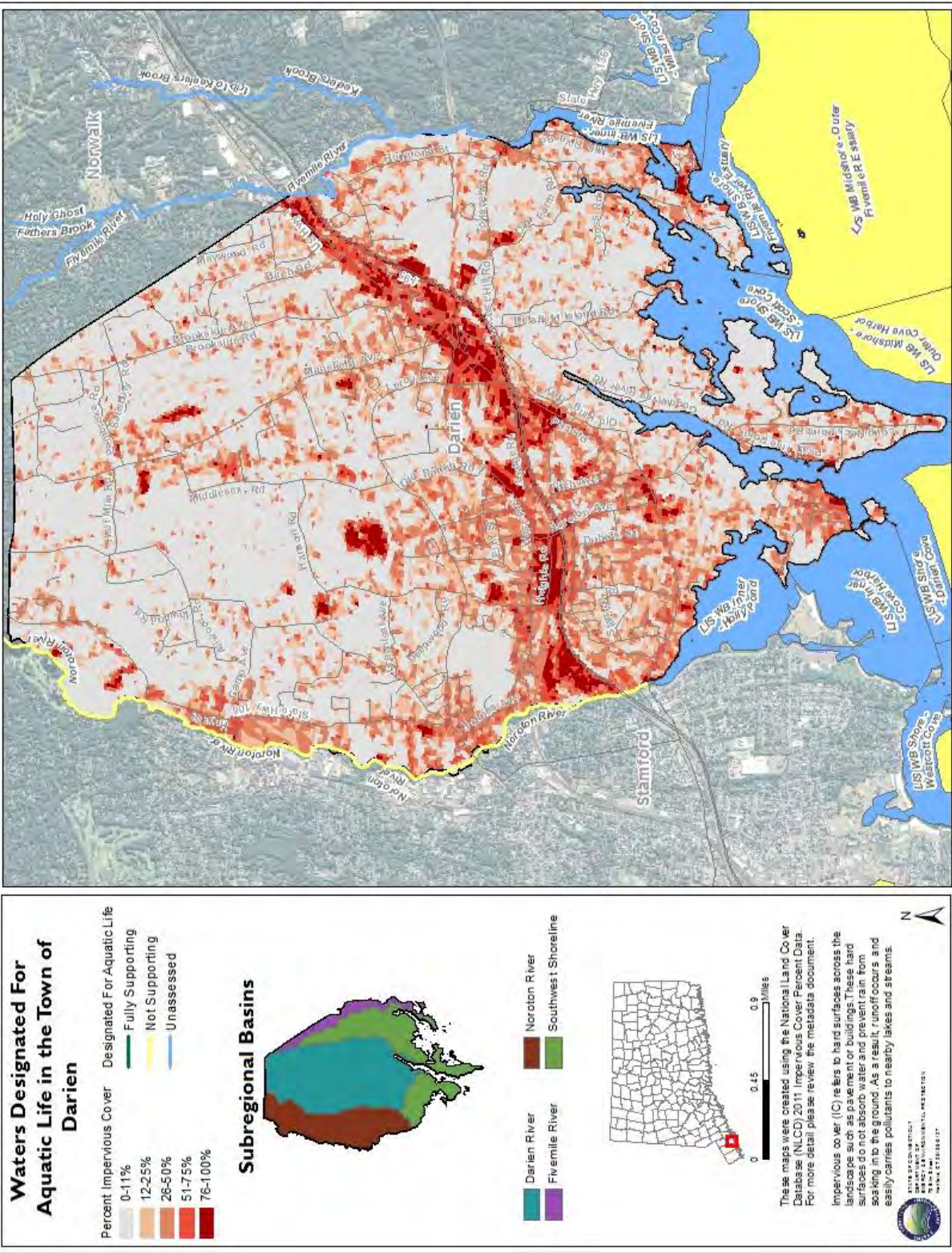
The following maps were created to show the impervious cover (IC) in your town as well as the water quality in the rivers, streams, lakes and estuaries in and around your town.

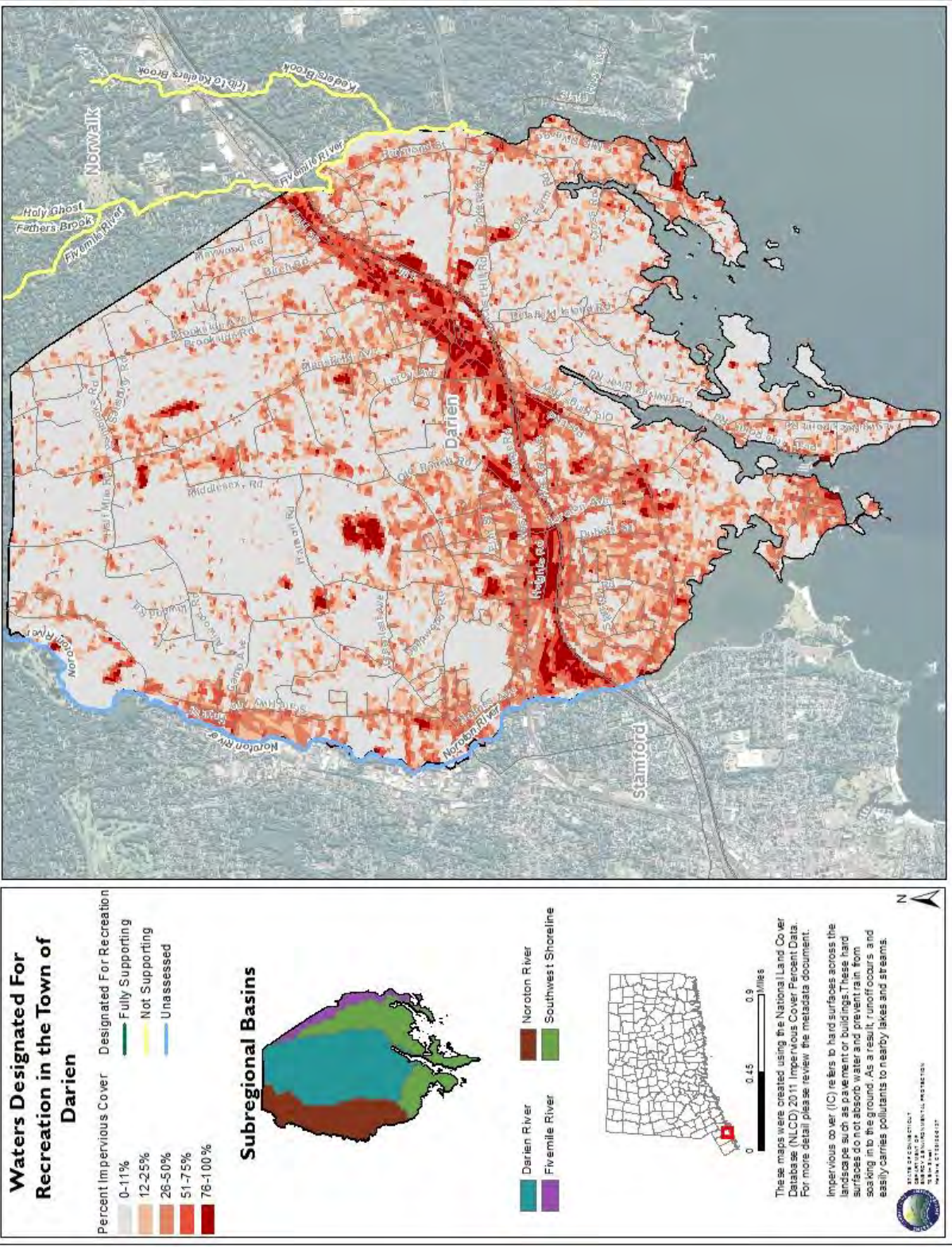
Impervious Cover on the Town Maps

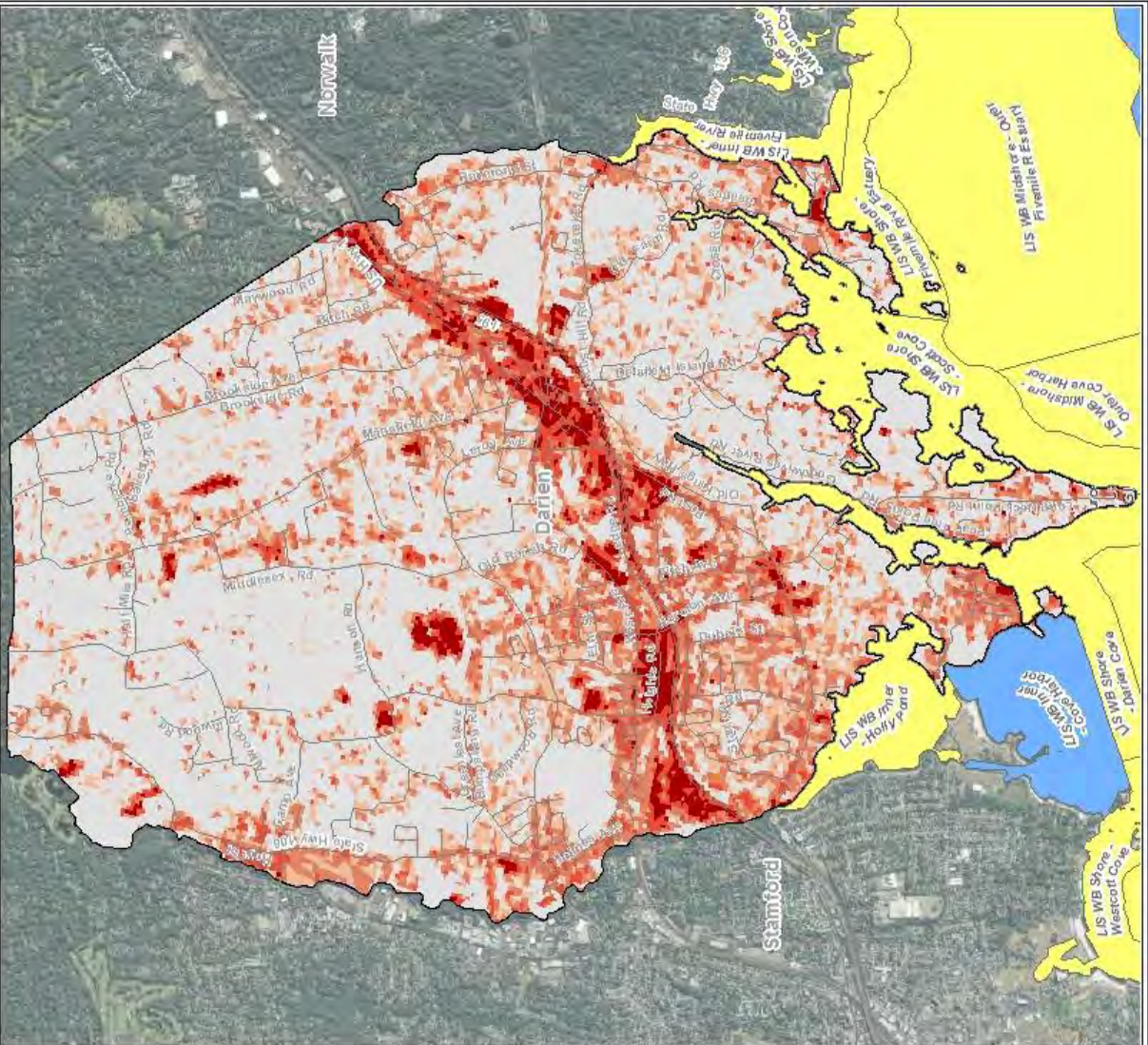
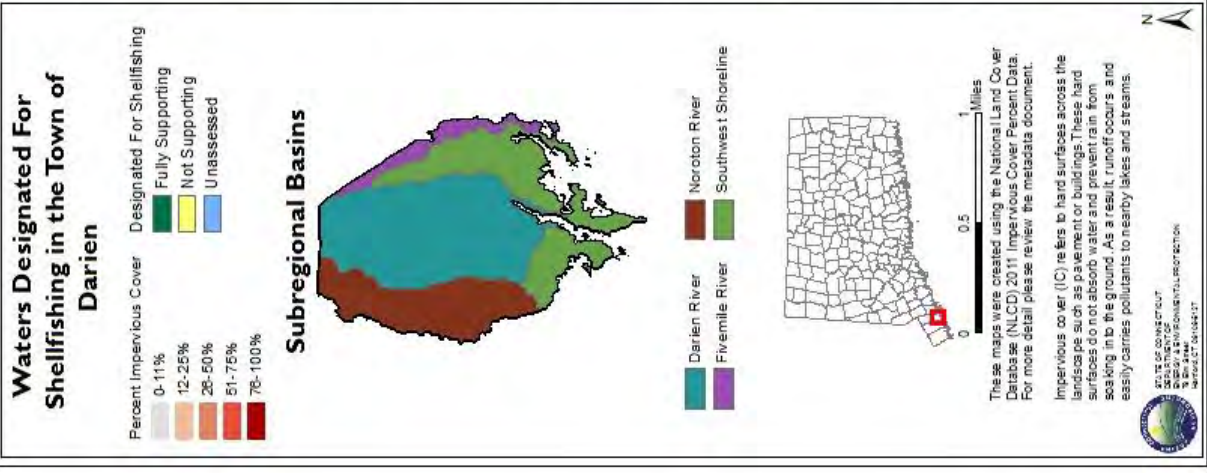
IC is shown in red on the maps. Dark red areas indicate a higher percentage of IC, lighter red areas have less IC, while the grey areas indicate very little or no IC.

Water Quality on the Town Maps

Separate maps are provided for the different uses of the waterbodies such as Aquatic Life Uses, Recreation, and Shellfishing (in coastal towns). The waterbodies are colored to show the health of the waterbody. Green means that the waterbody meets the water quality requirements to fully support the specified use. Yellow means that water quality is poor and that the specified use is not met. Blue means that there is not enough information to know whether or not water quality is good or bad to support the specified use. Additionally, a small map is provided on the left side of each larger map to show which watersheds are within your town.







TOWN OF DARIEN

AQUIFER PROTECTION AREA REGULATIONS



FEBRUARY 2008

AQUIFER PROTECTION AREA REGULATIONS

SECTION 1. TITLE AND AUTHORITY

- (a) Aquifers are an essential natural resource and a major source of public drinking water for the State of Connecticut. Use of groundwater will increase as the population grows and opportunities for new surface water supplies diminish due to the rising cost of land and increasingly intense development. At the same time, numerous drinking water wells have been contaminated by certain land use activities, and others are now threatened. To address this problem, Connecticut has established the Aquifer Protection Area Program (Connecticut General Statutes §22a-354a to §22a-354bb) to identify critical water supply aquifers and to protect them from pollution by managing land use. Protection requires coordinated responsibilities shared by the state, municipality and water companies to ensure a plentiful supply of public drinking water for present and future generations. It is therefore the purpose of these regulations to protect aquifer protection areas within the Town of Darien by making provisions for:

 - (1) implementing regulations consistent with state regulations and An Act Concerning Aquifer Protection Areas, Connecticut General Statutes §22a-354a to §22a-354bb ("the Act");
 - (2) delineating aquifer protection areas on the Town Zoning Map;
 - (3) regulating land use activity within the aquifer protection area including: prohibiting certain new activities; registering existing regulated activities; and issuing permits for new regulated activities at registered facilities; and
 - (4) administering and enforcing these regulations.
- (b) These regulations shall be known as the Aquifer Protection Area Regulations (the "APA Regulations") of the Town of Darien.
- (c) These regulations were adopted and may be amended, from time to time, in accordance with the provisions of §22a-354p of An Act Concerning Aquifer Protection Areas, the Connecticut General Statutes §22a-354a to §22a-354bb and the Regulations of Connecticut State Agencies §22a-354i-1 through §22a-354i-10.
- (d) The Planning and Zoning Commission of the Town of Darien is established as the Aquifer Protection Agency (the "Agency") in accordance with the "Ordinance for the Establishment of an Aquifer Protection Agency," (the "APA Ordinance") effective October 4, 2007, and shall implement the purposes and provisions of the APA Ordinance and the Act.
- (e) The Agency shall administer all provisions of the Act and shall approve or deny registrations, issue permits, issue permits with terms, conditions, limitations or modifications, or deny permits for all regulated activities in aquifer protection areas in the Town of Darien pursuant to the Act.

SECTION 2. DEFINITIONS

(a) As used in these regulations, the following definitions apply:

- (1) "Affected water company" means "affected water company" as defined in §22a-354h of the Connecticut General Statutes;**
- (2) "Agency" means the board or commission authorized by the municipality under §22a-354o of the Connecticut General Statutes;**
- (3) "Agriculture" means "agriculture" as defined in the §1-1(q) of the Connecticut General Statutes;**
- (4) "Applicant" means, as appropriate in context, a person who applies for an exemption under §22a-354i-6 of the Regulations of Connecticut State Agencies, a permit under §22a-354i-8 of the Regulations of Connecticut State Agencies or a permit under Section 9 of the APA Regulations;**
- (5) "Application" means, as appropriate in context, an application for an exemption under §22a-354i-6 of the Regulations of Connecticut State Agencies, an application for a permit under §22a-354i-8 of the Regulations of Connecticut State Agencies or an application for a permit under Section 9 of the APA Regulations;**
- (6) "Aquifer protection area" means "aquifer protection area" as defined in §22a-354h of the Connecticut General Statutes and any extension of such area approved by the Commissioner pursuant to §22a-354i-4 of the Regulations of Connecticut State Agencies;**
- (7) "Area of contribution" means "area of contribution" as defined in §22a-354h of the Connecticut General Statutes and as mapped in accordance with §22a-354b-1 of the Regulations of Connecticut State Agencies;**
- (8) "Bulk storage facility" means property where oil or petroleum liquids are received by tank vessel, pipeline, railroad car or tank vehicle for the purpose of storage for wholesale distribution;**
- (9) "Certified Hazardous Materials Manager" means a hazardous materials manager certified by the Institute of Hazardous Materials Management and who is qualified by reason of relevant specialized training and relevant specialized experience to conduct audits of regulated activities to ensure compliance with applicable laws and identify appropriate pollution prevention practices for such activities;**
- (10) "Commissioner" means the commissioner of environmental protection, or his or her agent;**
- (11) "Domestic sewage" means "domestic sewage" as defined in §22a-430-3(a) the Regulations of Connecticut State Agencies;**

(12) "Facility" means property where a regulated activity is conducted by any person, including without limitation any buildings located on the property that are owned or leased by that person; and includes contiguous land owned, leased, or for which there is an option to purchase by that person;

(13) "Floor drain" means any opening in a floor or surface which opening or surface receives materials spilled or deposited thereon;

(14) "Hazardous material" means (A) any hazardous substance as defined in 40 CFR 302.4 and listed therein at Table 302.4, excluding mixtures with a total concentration of less than 1% hazardous substances based on volume, (B) any hazardous waste as defined in §22a-449(c)-101 of the Regulations of Connecticut State Agencies, (C) any pesticide as defined in §22a-47 of the Connecticut General Statutes, or (D) any oil or petroleum as defined in §22a-448 of the Connecticut General Statutes;

(15) "Hazardous waste" means "hazardous waste" as defined in §22a-449(c)-101 of the Regulations of Connecticut State Agencies;

(16) "Industrial laundry" means a facility for washing clothes, cloth or other fabric used in industrial operations;

(17) "Infiltration device" means any discharge device installed below or above the ground surface that is designed to discharge liquid to the ground;

(18) "Inland wetland and watercourse areas map" means a map pursuant to §22a-42a of the Connecticut General Statutes;

(19) "ISO 14001 environmental management system certification" means a current ISO 14001 environmental management system certification issued by an ISO 14001 environmental management system registrar that is accredited by the American National Standards Institute (ANSI) - American Society for Quality (ASQ) National Accreditation Board (ANAB);

(20) "Level A mapping" means the lines as shown on Level A maps approved or prepared by the Commissioner pursuant to §22a-354c, §22a-354d or §22a-354z of the Connecticut General Statutes encompassing the area of contribution and recharge areas;

(21) "Lubricating oil" means oil that contains less than 1% chlorinated solvents and is used for the sole purpose of lubricating, cutting, grinding, machining, stamping or quenching metals;

(22) "Municipality" means "municipality" as defined in §22a-354h of the Connecticut General Statutes;

(23) "Owner" means the owner or lessee of the facility in question;

(24) "De-icing chemical" means sodium chloride, calcium chloride, or calcium magnesium acetate;

(25) "Person" means any individual, firm, partnership, association, syndicate, company, trust, corporation, limited liability company, municipality, agency, political or administrative subdivision of the state, or other legal entity of any kind;

(26) "Pollution" means "pollution" as defined in §22a-423 of the Connecticut General Statutes;

(27) "Pollution prevention" means the use of processes and materials so as to reduce or minimize the amount of hazardous materials used or the quantity and concentration of pollutants in waste generated;

(28) "Professional engineer" means a professional engineer licensed in accordance with Chapter 391 of the Connecticut General Statutes, and who is qualified by reason of relevant specialized training and relevant specialized experience to conduct audits of regulated activities to ensure compliance with applicable law and identify appropriate pollution prevention practices for such activities;

(29) "Publicly Owned Treatment Works" means "publicly owned treatment works" as defined in §22a-430-3 of the Regulations of Connecticut State Agencies;

(30) "Public service company" means "public service company" as defined in §16-1 of the Connecticut General Statutes;

(31) "Public supply well" means "public supply well" as defined in §19-13-B51b of the Regulations of Connecticut State Agencies;

(32) "Recharge area" means "recharge area" as defined in §22a-354h of the Connecticut General Statutes and as mapped in accordance with §22a-354b-1 of the Regulations of Connecticut State Agencies;

(33) "Registered regulated activity" means a regulated activity which has been registered under §22a-354i-7 of the Regulations of Connecticut State Agencies or Section 8 of the APA Regulations, and is conducted at the facility identified in such registration;

(34) "Registrant" means a person, who or which, has submitted a registration for an existing regulated activity under §22a-354i-7 of the Regulations of Connecticut State Agencies or Section 4 of the APA Regulations;

(35) "Regulated activity" means any of the following activities, which are located or conducted, wholly or partially, in an aquifer protection area, except as provided for in §22a-354i-5(c) and §22a-354i-6 of the Regulations of Connecticut State Agencies, or Section 4 of the APA Regulations:

(A) underground storage or transmission of oil or petroleum, to the extent such activity is not pre-empted by federal law, or hazardous material,

except for (i) an underground storage tank that contains number two (2) fuel oil and is located more than five hundred (500) feet from a public supply well subject to regulation under §22a-354c or §22a-354z of the Connecticut General Statutes, or (ii) underground electrical facilities such as transformers, breakers, or cables containing oil for cooling or insulation purposes which are owned and operated by a public service company,

(B) oil or petroleum dispensing for the purpose of retail, wholesale or fleet use,

(C) on-site storage of hazardous materials for the purpose of wholesale sale,

(D) repair or maintenance of vehicles or internal combustion engines of vehicles, involving the use, storage or disposal of hazardous materials, including solvents, lubricants, paints, brake fluids, transmission fluids or the generation of hazardous wastes,

(E) salvage operations of metal or vehicle parts,

(F) wastewater discharges to ground water other than domestic sewage and stormwater, except for discharges from the following that have received a permit from the Commissioner pursuant to §22a-430 of the Connecticut General Statutes: (i) a pump and treat system for ground water remediation, (ii) a potable water treatment system, (iii) heat pump system, (iv) non-contact cooling water system, (v) swimming pools,

(G) car or truck washing, unless all waste waters from such activity are lawfully disposed of through a connection to a publicly owned treatment works,

(H) production or refining of chemicals, including without limitation hazardous materials or asphalt,

(I) clothes or cloth cleaning service which involves the use, storage or disposal of hazardous materials including without limitation dry-cleaning solvents,

(J) industrial laundry activity that involves the cleaning of clothes or cloth contaminated by hazardous material, unless all waste waters from such activity are lawfully disposed of through a connection to a publicly owned treatment works,

(K) generation of electrical power by means of fossil fuels, except for (i) generation of electrical power by an emergency engine as defined by §22a-174-22(a)(2) of the Regulations of Connecticut State Agencies, or (ii) generation of electrical power by means of natural gas or propane,

(L) production of electronic boards, electrical components, or other electrical equipment involving the use, storage or disposal of any hazardous

material or involving metal plating, degreasing of parts or equipment, or etching operations,

(M) embalming or crematory services which involve the use, storage or disposal of hazardous material, unless all waste waters from such activity are lawfully disposed of through a connection to a publicly owned treatment works,

(N) furniture stripping operations which involve the use, storage or disposal of hazardous materials,

(O) furniture finishing operations which involve the use, storage or disposal of hazardous materials, unless all waste waters from such activity are lawfully disposed of through a connection to a publicly owned treatment works,

(P) storage, treatment or disposal of hazardous waste subject to a permit under §22a-449(c)-100 to §22a-449(c)-110, inclusive, of the Regulations of Connecticut State Agencies,

(Q) biological or chemical testing, analysis or research which involves the use, storage or disposal of hazardous material, unless all waste waters from such activity are lawfully disposed of through a connection to a publicly owned treatment works, and provided that on-site testing of a public supply well by a public water utility is not a regulated activity,

(R) pest control services which involve storage, mixing or loading of pesticides or other hazardous materials,

(S) photographic finishing which involves the use, storage or disposal of hazardous materials, unless all waste water from such activity are lawfully disposed of through a connection to a publicly owned treatment works,

(T) production or fabrication of metal products which involves the use, storage or disposal of hazardous materials including (i) metal cleaning or degreasing with industrial solvents, (ii) metal plating, or (iii) metal etching,

(U) printing, plate making, lithography, photoengraving, or gravure, which involves the use, storage or disposal of hazardous materials,

(V) accumulation or storage of waste oil, anti-freeze or spent lead-acid batteries which are subject to a general permit issued under §22a-208(i) and §22a-454(e)(1) of the Connecticut General Statutes,

(W) production of rubber, resin cements, elastomers or plastic, which involves the use, storage or disposal of hazardous materials,

(X) storage of de-icing chemicals, unless such storage takes place within a weather-tight water-proof structure for the purpose of retail sale or for the purpose of de-icing parking areas or access roads to parking areas,

(Y) accumulation, storage, handling, recycling, disposal, reduction, processing, burning, transfer or composting of solid waste which is subject to a permit issued by the Commissioner pursuant to §22a-207b, §22a-208a, and §22a-208c of the Connecticut General Statute, except for a potable water treatment sludge disposal area,

(Z) dying, coating or printing of textiles, or tanning or finishing of leather, which activity involves the use, storage or disposal of hazardous materials,

(AA) production of wood veneer, plywood, reconstituted wood or pressure-treated wood, which involves the use, storage or disposal of hazardous material, and

(BB) pulp production processes that involve bleaching;

(36) "Release" means "release" as defined in §22a-133k-1 of the Regulations of Connecticut State Agencies;

(37) "State aquifer protection regulations" means §22a-354i-1 to §22a-354i-10, inclusive, of the Regulations of Connecticut State Agencies;

(38) "Storage" means the holding or possession of any hazardous material;

(39) "Storage tank" means a stationary device which is designed to store hazardous materials, and is constructed of non-earthen materials including without limitation concrete, steel, fiberglass or plastic;

(40) "Topographic feature" means an object, whether natural or man-made, located on the earth surface and of sufficient size that it appears on a 1:24,000 scale topographic quadrangle map drawn by the United States Geological Survey;

(41) "Underground" when referring to a storage tank or storage tank component means that ten percent or more of the volumetric capacity of such tank or component is below the surface of the ground and that portion which is below the surface of the ground is not fully visible for inspection;

(42) "Vehicle" or "vehicles" means a "vessel" as defined by §15-170 of the Connecticut General Statutes, and any vehicle propelled or drawn by any non-muscular power, including without limitation an automobile, aircraft, all-terrain vehicle, tractor, lawn mower or snowmobile;

(43) "Waters" means "waters" as defined in §22a-423 of the Connecticut General Statutes;

(44) "Well field" means "well field" as defined in §22a-354h of the Connecticut General Statutes; and

(45) "Zoning Map" means any map showing zoning districts prepared in accordance with maps adopted pursuant to §8-3 of the Connecticut General Statutes.

SECTION 3. DELINEATION OF AQUIFER PROTECTION AREA BOUNDARIES

(a) The Planning and Zoning Commission shall delineate the aquifer protection areas on the Town of Darien Zoning Map or, if zoning district maps do not exist, the inland wetland and watercourse areas map adopted pursuant to §22a-42a the Connecticut General Statutes. Such delineation shall consist of the combined areas of contribution and recharge areas as shown on Level A maps approved or prepared by the Commissioner.

(1) Such boundaries shall be delineated within one hundred twenty (120) days after being notified by the Commissioner that an aquifer protection area is located partially or entirely within the Town of Darien.

(2) Notice of such delineation shall be published in a newspaper having substantial circulation in the affected area. Such notice shall include at least the following:

(A) a map or detailed description of the subject aquifer protection area; and

(B) the name, telephone number, and address of a representative of the Agency who may be reached for further information.

(b) In order to clarify the location of an aquifer protection area boundary, the Agency may apply to the Commissioner to extend such boundary to coincide with the nearest property line, municipal boundary or topographic feature pursuant to §22a-354i-4 of the Regulations of Connecticut State Agencies. Such extension shall, at a minimum, fully encompass the aquifer protection areas bounded by the approved level A mapping but shall not exceed the distance necessary to clarify the location of the aquifer protection area or to facilitate the administration of regulations pertaining thereto. An aquifer protection area boundary may not be extended without prior written approval of the Commissioner.

(1) Any request by the Agency to the Commissioner for extension of an aquifer protection area boundary shall include at least the following:

(A) A map to scale delineating (i) the aquifer protection area boundary mapped under Section 3(a) of the APA regulations and (ii) the proposed extension of the aquifer protection area boundary;

(B) A certification by the chairperson or duly authorized agent of the Agency that notice of such request has been provided to all owners of

property within the proposed extended aquifer protection area and all affected water companies in accordance with the following:

(i) Such notice shall include at least the following:

(aa) A map showing the aquifer protection area boundaries and the proposed extension of such boundaries,

(bb) the name, address, and telephone number of a representative of the Agency who may be contacted for further information, and

(cc) a statement that any person may, not later than thirty (30) days after said notification, submit to the Agency written comments on such proposed boundary extension;

(ii) Such notice shall be effectuated by the following:

(aa) Delivery of notice by certified mail to those individuals and entities identified in Subsection (b)(1)(B) of this Section, or

(bb) the publication of a notice in a newspaper having substantial circulation in the affected area; and posting of notice near the proposed boundaries of the subject aquifer protection area of at least four signs each of which shall be at least four square feet in size (2' x 2'); and

(iii) a summary of comments received by such Agency regarding the proposed boundary extension and the Agency's response.

(2) Not later than sixty (60) days after receiving the Commissioner's written approval of a request to extend an aquifer protection area boundary, the Agency shall cause such boundary to be delineated in accordance with Subsection (a) of this Section.

(c) No person may challenge the boundaries of the aquifer protection area under the APA Regulations unless such challenge is based solely on a failure by the Agency to properly delineate the boundaries in accordance with §22a-354n of the Connecticut General Statutes.

(d) A map of the location and boundaries of the aquifer protection areas, or regulated areas, shall be available for inspection in the Office of the Town Clerk or the Agency.

(e) If the Level A mapping is amended in accordance with §22a-354b-1(i) or §22a-354b-1(j) of the Regulations of Connecticut State Agencies, the Agency shall cause the amended aquifer protection area boundary to be delineated in accordance with Subsections (a) or (b) of this Section.

SECTION 4. PROHIBITED AND REGULATED ACTIVITIES

(a) All regulated activities are prohibited in aquifer protection areas, except as specified in Subsection (b) of this Section.

(b) The following regulated activities are not prohibited in aquifer protection areas:

(1) A registered regulated activity which is conducted in compliance with §22a-354i-9 of the Regulations of Connecticut State Agencies or Section 12 of the APA Regulations; and

(2) a regulated activity which has received a permit issued pursuant to §22a-354i-8 of the Regulations of Connecticut State Agencies or Section 9 of the APA Regulations.

(c) The following are not regulated activities:

(1) Any activity conducted at a residence without compensation;

(2) any activity involving the use or storage of no more than two and one-half (2.5) gallons of each type of hazardous material on-site at any one time, provided the total of all hazardous materials on-site does not exceed fifty-five (55) gallons at any one time;

(3) any agricultural activity regulated pursuant to §22a-354m(d) of the Connecticut General Statutes;

(4) any activity provided all the following conditions are satisfied:

(A) such activity takes place solely within an enclosed building in an area with an impermeable floor,

(B) such activity involves no more than 10% of the floor area in the building where the activity takes place,

(C) any hazardous material used in connection with such activity is stored in such building at all times,

(D) all waste waters generated by such activity are lawfully disposed through a connection to a publicly owned treatment works, and

(E) such activity does not involve (i) repair or maintenance of internal combustion engines, including without limitation, vehicles, or equipment associated with such vehicles, (ii) underground storage of any hazardous material, or (iii) above ground storage of more than one hundred and ten (110) gallons of hazardous materials;

(5) any activity solely involving the use of lubricating oil provided all the following conditions are satisfied:

(A) such activity does not involve cleaning of metals with chlorinated solvents at the facility,

(B) such activity takes place solely within an enclosed building in an area with an impermeable floor,

(C) any hazardous material used in connection with such activity is stored in such building at all times, and

(D) such activity does not involve: (i) repair or maintenance of internal combustion engines, including without limitation, vehicles, or equipment associated with such vehicles, (ii) underground storage of any hazardous material, or (iii) above ground storage of more than one hundred ten (110) gallons of such lubricating oil and associated hazardous waste; and

(6) any activity involving the dispensing of oil or petroleum from an above-ground storage tank or tanks with an aggregate volume of two thousand (2000) gallons or less provided all the following conditions are satisfied:

(A) such dispensing activity takes place solely on a paved surface which is covered by a roof,

(B) the above-ground storage tank(s) is a double-walled tank with overfill alarms, and

(C) all associated piping is either above ground, or has secondary containment.

(d) Determination of a non-regulated activity

- (1) Any person proposing to carry out a non-regulated activity, as set forth in Section 4(c) of these regulations, in an aquifer protection area shall, prior to commencement of such activity, notify the Agency or its duly authorized agent on a form provided by the Agency. Such form shall provide sufficient information to enable the Agency or its duly authorized agent to properly determine that the proposed activity is a regulated activity or a non-regulated activity within the aquifer protection area. (2) If such activity is determined to be a non-regulated activity, then no further action under the APA Regulations is necessary.**

SECTION 5. ACTIVITIES REGULATED BY THE STATE

- (a) The Commissioner shall exclusively regulate activities within aquifer protection areas that are specified in §22a-354p(g) of the Connecticut General Statutes. The Agency shall regulate all other regulated activities.
- (b) Any person conducting regulated activities that are within the authority of the Commissioner shall submit a registration or obtain a permit or exemption from the Commissioner prior to engaging in such activity. The Commissioner shall process applications for those regulated activities.
- (c) The Agency may submit an advisory decision to the Commissioner for consideration on any permit regulated under this Section in accordance with the Connecticut General Statutes §22a-354p(g).

SECTION 6. APPLICATION FOR AN EXEMPTION FROM PROHIBITION OR REGULATION

- (a) The owner or operator of a regulated activity may seek an exemption from the Commissioner pursuant to §22a-354i-6 of the Regulations of Connecticut State Agencies. Any person seeking an exemption from the Commissioner shall concurrently submit a copy of the application for an exemption to the Agency and any affected water company.
- (b) The Agency may submit written comments to the Commissioner on any exemption regulated under this Section in accordance with §22a-354i-6(c) of the Regulations of Connecticut State Agencies within sixty (60) days of the agency receipt of copy of the application.

SECTION 7. GENERAL REGISTRATION, PERMIT APPLICATION AND TRANSFER PROCEDURES

- (a) All applications for permits and registrations shall contain sufficient information for a fair and informed determination of the issues. The Agency may request additional information from the applicant for this purpose.
- (b) The day of receipt of a registration, permit application or transfer form shall be the day of the next regularly scheduled meeting of the Agency, immediately following the day of submission of the application to the Agency or its duly authorized agent, or thirty-five (35) days after such submission, whichever is sooner.
- (c) At any time during the review period, the Agency may require the applicant or registrant to provide additional information about the regulated activity. Requests for additional information shall not stay the time limitations for registrations and permits as set forth in Sections 8 and 9 of the APA Regulations.

- (d) All permit applications and registrations shall be open for public inspection.
- (e) Incomplete permit applications and registrations may be denied without prejudice.
- (f) No permit or registration issued under Sections 8 or 9 of the APA Regulations shall be assigned or transferred except with written approval by the Agency.
- (g) The Agency shall notify the town clerk of any adjoining municipality of the pendency of any application, petition, appeal, request or plan concerning any project on any site in which:
 - (1) any portion of the property affected by a decision of such agency is within five-hundred feet of the boundary of the adjoining municipality;
 - (2) a significant portion of the traffic to the completed project on the site will use streets within the adjoining municipality to enter or exit the site;
 - (3) a significant portion of the sewer or water drainage from the project on the site will flow through and significantly impact the drainage or sewerage system within the adjoining municipality; or
 - (4) water runoff from the improved site will impact streets or other municipal or private property within the adjoining municipality. Such notice shall be made by certified mail, return receipt requested, and shall be mailed within seven days of the date of receipt of the application, petition, request or plan. Such adjoining municipality may, through a representative, appear and be heard at any hearing on any such application, petition, appeal, request or plan.

SECTION 8. REGISTRATION REQUIREMENTS

- (a) Any person engaged in a regulated activity which substantially commenced, or was in active operation within the past five (5) years, or with respect to which a municipal building permit was issued, either (A) before the effective date of the state aquifer protection regulations, or (B) before the date an applicable aquifer protection area is designated on a municipal zoning district map or inland wetland and watercourse areas map, whichever occurs later, shall register the activity in accordance with this Section unless such person has pending an application for an exemption pursuant to §22a-354i-6 of the Regulations of Connecticut State Agencies.
 - (1) The Commissioner shall process registrations for those regulated activities specified in §22a-354p(g) of the Connecticut General Statutes. The Agency shall process registrations for all other regulated activities.
 - (2) If the regulated activity is not specified in §22a-354p(g) of the Connecticut General Statutes, the person engaged in such activity shall submit a registration to the Agency not later than one hundred eighty (180) days after adoption of regulations pursuant to §22a-354p of the Connecticut General Statutes, or the designation the aquifer protection area pursuant to §22a-354i-2 of the Regulations of Connecticut State Agencies, whichever occurs later. Said person shall

simultaneously file a copy of the registration with the Commissioner, Commissioner of Public Health and the affected water company.

(b) All registrations shall be provided on a form prescribed by the Agency and shall be accompanied by the correct registration fee in accordance with Section 18 of the APA Regulations. Such registration forms may be obtained from the Town Clerk or the Agency. Such registration forms shall include at least the following information in writing or on maps or drawings:

(1) The name, business telephone number, street address and mailing address of the:

(A) Registrant; if the registrant is a corporation or limited partnership, the full name of the facility and such corporation or limited partnership as registered with the Connecticut Secretary of State, and any officer or governing or managing body of any partnership, association, firm or corporation,

(B) owner of such facility if different than the registrant, and

(C) manager or operator overseeing the operations of such facility;

(2) the location of such facility, using street address or other appropriate method of location, and a map showing the property boundaries of the facility on a 1:24,000 scale United States Geological Survey topographic quadrangle base;

(3) an identification of the regulated activity or activities conducted at the facility, as described in Section 2(a)(35) of the APA Regulations, which regulated activity or activities shall consist of any regulated activity which substantially commenced, was in active operation, or with respect to which a municipal building permit was issued within the past five years; and

(4) a certification by the registrant that the subject regulated activity is in compliance with the best management practices set forth in Section 12(a) of the APA Regulations, as follows, signed after satisfying the statements set forth in the following certification:

"I have personally examined and am familiar with the information submitted in this registration and all attachments, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in this document or certification may be punishable as a criminal offense under §53a-157b of the Connecticut General Statutes and any other applicable law."

(c) When deemed necessary to protect a public supply well subject to regulation under §22a-354c or §22a-354z of the Connecticut General Statutes, the Agency may:

(1) require, by written notice, any registrant to submit for review and written approval a storm water management plan prepared in accordance with Section 12(b) of the APA Regulations. If so required, the storm water management plan shall be implemented by the registrant immediately upon its approval; or

(2) require, by written notice, any registrant to submit for review and written approval the materials management plan prepared in accordance with Section 12(a) of the APA Regulations. If so required, the materials management plan shall be implemented by the registrant immediately upon its approval.

(d) If the Agency determines that a registration is incomplete, it shall reject the registration and notify the registrant of what additional information is required and the date by which it shall be submitted.

(e) If the registration is determined to be complete, and the regulated activity is eligible for registration, the Agency shall send written notification of such registration to the registrant. Such registration shall be determined to be complete and eligible if the registrant has not otherwise received a notice of rejection from the Agency, not later than one hundred and eighty (180) days after the date the registration is received by the Agency.

(f) The following general provisions shall be included in the issuance of all registrations:

(1) The Agency has relied in whole or in part on information provided by the registrant and if such information subsequently proves to be false, deceptive, incomplete or inaccurate, the registration may be modified, suspended or revoked;

(2) all registrations issued by the Agency are subject to and do not derogate any present or future rights or powers of the Commissioner, Agency, or municipality, and convey no rights in real estate or material nor any exclusive privileges, and are further subject to any and all public and private rights and to any federal, state, and municipal laws or regulations pertinent to the subject land or activity;

(3) a complete registration shall expire five (5) years from the date of receipt of such registration by the Agency;

(4) the registrant shall apply to the Agency to renew the registration on a form prescribed by the Agency for a facility prior to expiration of such registration; and

(5) If a registered regulated activity is out of business or inactive when registration renewal is required, a five (5) year allowance shall be in effect from the date the registration expires. If the registrant has not applied to renew the registration within five (5) years of the date the registration expires, the facility is no longer eligible for registration.

(g) If a regulated activity which is eligible for registration in accordance with Subsection (a) of this Section fails to be registered or if the registrant of an active registered activity fails to apply for renewal prior to expiration, the Commissioner or municipal aquifer

protection agency, as appropriate, may accept a late registration at their discretion, subject to the limitations in Subsection (f)(5) of this Section.

(h) Any person wishing to assume the benefits under a registration for regulated activities shall apply to transfer such registration on a form prescribed by the Agency and submitted to the Agency.

SECTION 9. PERMIT REQUIREMENTS

(a) Any person may apply for a permit to add a regulated activity to a facility where a registered regulated activity occurs.

(b) The Agency shall process permit applications for those registrants that have registered pursuant to Section 8 of the APA Regulations. The Commissioner shall process permit applications for regulated activities specified in §22a-354p(g) of the Connecticut General Statutes and for those registrants that have registered pursuant to §22a-354i-7(b)(1) of the Regulations of Connecticut State Agencies.

(c) Action shall be taken on permit applications within sixty-five (65) days after the completion of a public hearing or in the absence of a public hearing within sixty-five (65) days from the date of receipt of the application. The applicant may consent to one or more extensions of either of these timeframes, provided the total extension of all such periods is sixty-five (65) days or less.

(d) An application for a permit shall be made on a form prescribed by the Agency and shall be accompanied by the correct application fee in accordance with Section 18 of the APA Regulations. Such permit application forms may be obtained from the Town Clerk or the Agency. Simultaneously with filing an application, the applicant shall send a copy of the application to the Commissioner, the Commissioner of Public Health and the affected water company. An application shall include the following information:

(1) The information as required for a registration under Section 8(b) of the APA Regulations shall be provided for the proposed regulated activity;

(2) a confirmation and certification that the existing and proposed activity:

(A) remains and shall remain in compliance with Section 12(a) of the APA Regulations,

(B) shall not increase the number of underground storage tanks used for storage of hazardous materials, and

(C) remains and shall remain in compliance with all local, state, and federal environmental laws;

(3) a materials management plan in accordance with Section 12(a) of the APA Regulations;

(4) a storm water management plan in accordance with Section 12(b) of the APA Regulations;

(5) the following environmental compliance information with respect to environmental violations which occurred at the facility where the regulated activities are conducted, within the five years immediately preceding the date of the application:

(A) any criminal conviction involving a violation of any environmental protection law,

(B) any civil penalty imposed in any state or federal judicial proceeding, or any penalty exceeding five thousand dollars imposed in any administrative proceeding, and

(C) any judicial or administrative orders issued regarding any such violation together with the dates, case or docket numbers, or other information which identifies the proceeding. For any such proceeding initiated by the state or federal government, the Agency may require submission of a copy of any official document associated with the proceeding, the final judgment or order;

(6) any additional information deemed necessary by the Agency regarding potential threats to the ground water and proposed safeguards; and

(7) the following certification signed by the applicant and the individual responsible for preparing the application, after satisfying the statements set forth in the certification: "I have personally examined and am familiar with the information submitted in this document and all attachments, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information is punishable as a criminal offense under §53a-157b of the Connecticut General Statutes and any other applicable law."

(e) The Commissioner, any affected water company or the Commissioner of Public Health may, not later than thirty (30) days after receiving a copy of an application for a permit under this Section, submit to the Agency written comments on such application. The Agency shall give due consideration to any such comments, and shall provide a copy of the decision to the Commissioner, the affected water company and the Commissioner of Public Health.

(f) To carry out the purposes of the Act, the Agency may grant an application as filed, grant it upon such terms, conditions, limitations or modifications necessary, or deny it. The Agency shall state upon the record the reason for its decision.

(g) The Agency may hold a public hearing on an application for a permit in accordance with Section 10 of the APA regulations.

(h) The Agency shall not issue a permit unless a complete application has been received and the applicant demonstrates to the Agency's satisfaction that all requirements of this Section of the APA regulations have been satisfied and all of the following standards and criteria have been met:

(1) the proposed regulated activity shall take place at a facility where a registered regulated activity occurs;

(2) the proposed regulated activity shall not increase the number, or storage capacity of underground storage tanks used for hazardous materials except for the replacement of an existing underground storage tank in accordance with Section 12(a)(3) of the APA Regulations;

(3) the materials management plan and storm water management plan have been satisfactorily prepared in accordance with Sections 12(a) and 12(b) of the APA Regulations;

(4) the applicant has submitted a confirmation and certification that all regulated activities remain and shall remain in compliance with all local, state and federal environmental laws in accordance with Subsection (d)(2) of this Section;

(5) the applicant's compliance record does not indicate (A) that any noncompliance resulted from indifference to or disregard for the legal requirements, (B) an unwillingness or inability to devote the resources necessary to comply and remain in compliance, or (C) that instances of noncompliance have led to serious environmental harm, harm to human health or safety, or a substantial risk of such harm;

(6) the proposed regulated activity shall be conducted in accordance with Section 12 of the APA Regulations;

(7) the existing regulated activity is being conducted in accordance with Section 12 of the APA Regulations; and

(8) the certification required under Subsection (d)(7) of this Section has been signed by the applicant and the individual responsible for preparing the application.

(i) The Agency may impose reasonable conditions or limitations on any permit issued under this Section to assure protection of the ground water, including, but not limited to the following:

(1) best management practices in addition to those set forth in Section 12 of the APA Regulations; and

(2) ground water monitoring.

(j) The following general provisions shall be included in the issuance of all permits:

(1) the Agency has relied in whole or in part on information provided by the applicant and if such information subsequently proves to be false, deceptive, incomplete or inaccurate, the permit may be modified, suspended or revoked;

(2) all permits issued by the Agency are subject to and do not derogate any present or future rights or powers of the Commissioner, Agency, or municipality, and convey no rights in real estate or material nor any exclusive privileges, and are further subject to any and all public and private rights and to any federal, state, and municipal laws or regulations pertinent to the subject land or activity;

(3) the permit shall expire ten (10) years from the date of issuance of such permit by the Agency; and

(4) a person shall apply to the Agency to renew the permit on a form prescribed by the Agency prior to expiration of such permit. Such renewal shall be granted upon request by the Agency unless a substantial change in the permitted activity is proposed, or enforcement action with regard to the regulated activity has been taken, in which case, a new permit application shall be submitted and reviewed in accordance with the provisions of this Section.

(k) The Agency shall notify the applicant or permittee within fifteen (15) days of the date of the decision by certified mail, return receipt requested, and the Agency shall cause notice of its order in issuance or denial of a permit to be published in a newspaper having a general circulation in the municipality in which the aquifer protection area is located.

(l) A permittee may request a modification of a permit from the Agency. Such request shall be on a form prescribed by the Agency, and shall include the facts and reasons supporting the request. The Agency may require the permittee to submit a new application for a permit or renewal in lieu of a modification request.

(m) A person wishing to assume the benefits under a permit for regulated activities shall apply to transfer such permit on a form prescribed by the Agency and submitted to the Agency.

SECTION 10. PUBLIC HEARINGS REGARDING PERMIT APPLICATIONS

(a) If the Agency decides to hold a public hearing regarding an application for a permit to conduct a regulated activity within an aquifer protection area, such hearing shall commence no later than sixty-five (65) days after the receipt of such application.

(b) Notice of the hearing shall be published at least twice at intervals of not less than two (2) days, the first not more than fifteen (15) days and not fewer than ten (10) days, and the last not less than two (2) days before the date set for the hearing in a newspaper having a

general circulation in each Darien (where the affected aquifer, or any part thereof, is located).

(c) The Agency shall send to any affected water company, at least ten (10) days before the hearing, a copy of the notice by certified mail, return receipt requested. Any affected water company may, through a representative, appear and be heard at any such hearing.

(d) All applications, maps and documents relating thereto shall be open for public inspection.

(e) At such hearing any person or persons may appear and be heard.

(f) The hearing shall be completed within thirty-five (35) days of its commencement.

(g) The applicant may consent to an extension of the time frames in Subsections (a) or (f) of this Section, provided the total extension of all such periods, including any extensions provided in Section 9(c), totals sixty-five (65) days or less.

(h) In reaching its decision on any application after a public hearing, the Agency shall base its decision on the record of that hearing. Documentary evidence or other material not in the hearing record shall not be considered by the Agency in its decision.

(i) The applicant or permittee shall be notified of the Agency's decision in accordance with Section 9(k) of the APA Regulations.

SECTION 11. BOND AND INSURANCE RELEVANT TO PERMIT APPLICANTS

(a) An applicant may be required to file a bond as a condition of the permit.

(b) Any bond or surety shall be conditioned on compliance with all provisions of these regulations and the terms, conditions and limitations established in the permit.

SECTION 12. BEST MANAGEMENT PRACTICES

(a) Every regulated activity shall be conducted in accordance with the following:

(1) hazardous materials may be stored above ground within an aquifer protection area only in accordance with the following conditions:

(A) hazardous material shall be stored in a building or under a roof that minimizes storm water entry to the hazardous material storage area, except that a roof is not required for a bulk storage facility as defined in Section 2 of the APA Regulations,

(B) floors within a building or under a roof where hazardous material may be stored shall be constructed or treated to protect the surface of the floor from deterioration due to spillage of any such material,

(C) a structure which may be used for storage or transfer of hazardous material shall be protected from storm water run-on, and ground water intrusion,

(D) hazardous material shall be stored within an impermeable containment area which is capable of containing at least the volume of the largest container of such hazardous material present in such area, or 10% of the total volume of all such containers in such area, whichever is larger, without overflow of released hazardous material from the containment area,

(E) hazardous material shall not be stored with other hazardous materials that are incompatible and may create a hazard of fire, explosion or generation of toxic substances,

(F) hazardous material shall be stored only in a container that has been certified to meet state or federal specifications for containers suitable for the transport or storage of such material,

(G) hazardous material shall be stored only in an area that is secured against unauthorized entry by the public, and

(H) the requirements of this subdivision are intended to supplement, and not to supersede, any other applicable requirements of federal, state, or local law, including applicable requirements of the Resource Conservation and Recovery Act of 1976;

(2) no person shall increase the number of underground storage tanks used to store hazardous materials;

(3) an underground storage tank used to store hazardous materials shall not be replaced with a larger tank unless (A) there is no more than a 25% increase in volume of the larger replacement tank, and (B) the larger replacement tank is a double-walled tank with co-axial piping, both meeting new installation component standards pursuant to §22a-449(d)-1(e) and §22a-449(d)-102 of the Regulations of Connecticut State Agencies, and with interstitial monitoring;

(4) no person shall use, maintain or install floor drains, dry wells or other infiltration devices or appurtenances which allow the release of waste waters to the ground, unless such release is permitted by the Commissioner in accordance with §22a-430 or §22a-430b of the Connecticut General Statutes; and

(5) a materials management plan shall be developed and implemented in accordance with the following:

(A) a materials management plan shall contain, at a minimum, the following information with respect to the subject regulated activity:

(i) a pollution prevention assessment consisting of a detailed evaluation of alternatives to the use of hazardous materials or processes and practices that would reduce or eliminate the use of hazardous materials, and implementation of such alternatives where possible and feasible,

(ii) a description of any operations or practices which may pose a threat of pollution to the aquifer, which shall include the following:

(aa) a process flow diagram identifying where hazardous materials are stored, disposed and used, and where hazardous wastes are generated and subsequently stored and disposed,

(bb) an inventory of all hazardous materials which are likely to be or will be manufactured, produced, stored, utilized or otherwise handled, and

(cc) a description of waste, including waste waters generated, and a description of how such wastes are handled, stored and disposed,

(iii) the name, street address, mailing address, title and telephone number of the individual(s) responsible for implementing the materials management plan and the individual(s) who should be contacted in an emergency,

(iv) a record-keeping system to account for the types, quantities, and disposition of hazardous materials which are manufactured, produced, utilized, stored, or otherwise handled or which are discharged or emitted; such record-keeping system shall be maintained at the subject facility and shall be made available thereat for inspection during normal business hours by the Commissioner and the municipal aquifer protection agency, and

(v) an emergency response plan for responding to a release of hazardous materials. Such plan shall describe how each such release could result in pollution to the underlying aquifer and shall set forth the methods used or to be used to prevent and abate any such a release;

(B) when a materials management plan is required under either Section 8(c) or 9(d) of the APA Regulations, such materials management plan shall be completed and certified by a professional engineer or a certified hazardous materials manager, or, if the facility where the regulated activity is conducted has received and maintained an ISO 14001 environmental management system certification, then the registrant may complete and certify the materials management plan; and

(C) the materials management plan shall be maintained at the subject facility and shall be made available thereat for inspection during normal business hours by the Commissioner and the municipal aquifer protection agency.

(b) The development and implementation of a storm water management plan required for regulated activities in accordance with Sections 8(c) and 9(d) of the APA Regulations, shall be as follows: A storm water management plan shall assure that storm water run-off generated by the subject regulated activity is (i) managed in a manner so as to prevent pollution of ground water, and (ii) shall comply with all of the requirements for the General Permit of the Discharge of Storm Water associated with a Commercial Activity issued pursuant to §22a-430b of the Connecticut General Statutes.

SECTION 13. OTHER STATE, FEDERAL AND LOCAL LAWS

(a) Nothing in these regulations shall obviate the requirement for the applicant to obtain any other assents, permits or licenses required by law or regulation by the Town of Darien, State of Connecticut and the Government of the United States including any approval required by the Connecticut Department of Environmental Protection and the U.S. Army Corps of Engineers and the United States Environmental Protection Agency. Obtaining such assents, permits or licenses are the sole responsibility of the applicant.

(b) No person shall conduct any regulated activity within an aquifer protection area which requires zoning or subdivision approval without first having obtained a valid certificate of zoning or subdivision approval, special permit, special exception or variance, or other documentation establishing that the proposal complies with the Town of Darien zoning or subdivision regulations.

SECTION 14. ENFORCEMENT

(a) The Agency may appoint a duly authorized agent to act in its behalf with the authority to issue notices of violation or cease and desist orders.

(b) If the Agency or its duly authorized agent finds that any person is conducting or maintaining any activity, facility or condition which violates any provision of these regulations, the Agency or its duly authorized agent may:

(1) Issue a notice of violation.

(A) The notice of violation shall state the nature of the violation, the jurisdiction of the Agency, and the necessary action required to correct the violation including without limitation halting the activity in the aquifer protection area.

(B) The Agency may request that the person appear at the next regularly scheduled meeting of the Agency to discuss the unauthorized activity, and/or provide a written reply to the notice or file an application for the

necessary permit or registration. Failure to carry out the action(s) directed in a notice of violation may result in issuance of an order under Subsection (2) of this Section or other enforcement proceedings as provided by law.

(2) Issue a written order.

(A) Such order shall be issued by certified mail, return receipt requested to such person conducting such activity or maintaining such facility or condition to cease such activity immediately or to correct such facility or condition. The Agency shall send a copy of such order to any affected water company by certified mail, return receipt requested.

(B) Within ten (10) days of the issuance of such order the Agency shall hold a hearing to provide the person an opportunity to be heard and show cause why the order should not remain in effect. Any affected water company may testify at the hearing. The Agency shall consider the facts presented at the hearing and, within ten (10) days of the completion of the hearing, notify the person by certified mail, return receipt requested, that the original order remains in effect, that a revised order is in effect, or that the order has been withdrawn.

(3) Suspend or revoke registration or permit.

(A) The Agency may suspend or revoke a registration or a permit if it finds, after a hearing, that the registrant or permittee has not complied with the terms, conditions or limitations set forth in the registration or the permit. Prior to revoking or suspending any registration or permit, the Agency shall issue notice to the registrant or the permittee, personally or by certified mail, return receipt requested, setting forth the facts or conduct that warrants the intended action.

(B) The Agency shall hold a hearing to provide the registrant or permittee an opportunity to show that it is in compliance with its registration or permit. The Agency shall notify the registrant or permittee of its decision by certified mail within fifteen (15) days of the date of its decision. The Agency shall publish notice of a suspension or revocation in a newspaper having general circulation in the Town of Darien.

(c) An order issued pursuant to Subsection (b)(2) of this Section shall be effective upon issuance, shall remain in effect until the Agency affirms, revises, or withdraws the order, and shall not delay or bar an action pursuant to Subsection (b)(3) of this Section.

(d) A court may assess criminal and or civil penalties to any person who commits, takes part in, or assists in any violation of any provision of the APA regulations in accordance with §22a-354s(b) and §22a-354s(c) of the Connecticut General Statutes.

SECTION 15. AMENDMENTS

(a) These regulations may be amended, changed or repealed in accordance with §22a-354p(b) of the Connecticut General Statutes.

(b) If a complete application is filed with the Agency which is in conformance with the APA regulations as of the date of its filing, the permit issued shall not be required to comply with any changes in regulations taking effect on or after the filing date. The provisions of this Section shall not apply to the establishment, amendment, or change of the boundaries of the aquifer protection area or to any changes in the APA Regulations necessary to make the regulations consistent with Chapter 446i of the Connecticut General Statutes as of the date of the Agency's decision.

SECTION 16. APPEALS

(a) Appeal of the Agency's regulation, order, decision or action shall be made in accordance with §22a-354q of the Connecticut General Statutes.

SECTION 17. CONFLICT AND SEVERANCE

(a) If there is a conflict between the provisions of the APA Regulations, the provision that imposes the most stringent standards shall govern. The invalidity of any word, clause, sentence, section, part, subsection, subdivision or provision of these regulations shall not affect the validity of any other part that can be given effect without such valid part or parts.

(b) If there is a conflict between the provisions of the APA Regulations and the Act, the provisions of the Act shall govern.

SECTION 18. REGISTRATION AND PERMIT APPLICATION FEES

(a) All fees required by these regulations shall be submitted to the Agency by certified check or money order payable to the Town of Darien at the time the registration or permit application is filed with the Agency.

(b) No registration or permit application shall be granted or approved by the Agency unless the correct registration/application fee is paid in full or unless a waiver has been granted by the Agency pursuant to Subsection (f) of this Section.

(c) The registration or permit application fee is nonrefundable.

(d) Registration or permit application fees shall be based on the following schedule:

Registrations: \$100 per facility.

Permits: \$100 per facility

(e) Boards, commissions, councils and departments of the Town of Darien are exempt from all fee requirements.

(f) The registrant or applicant may petition the Agency to waive, reduce or allow delayed payment of the fee. Such petitions shall be in writing and shall state fully the facts and circumstances the Agency should consider in its determination under this Section. The Agency may waive all or part of the application fee if the Agency determines that:

(1) the activity applied for would clearly result in a substantial public benefit to the environment or to the public health and safety and the registrant or applicant would reasonably be deterred from initiating the activity solely or primarily as a result of the amount of the registration or permit application fee; or

(2) the amount of the registration or permit application fee is clearly excessive in relation to the cost to the Town for reviewing and processing the application.

(g) Extra Assessments

In the event that additional expenses, including but not limited to outside consultants, experts, or legal advisors are incurred in processing the registration or permit application the applicant/registrant may be assessed an additional fee not to exceed \$5,000 to cover said costs. Said fees are to be estimated by the duly authorized agent and submitted with the application fee and held until the application is completely processed after which time any residual funds pertaining to this assessment are to be returned to the applicant/registrant. For the purpose of this assessment, an “outside consultant” means a professional who is not an employee of the Town of Darien including but not limited to engineering, environmental, hydrogeology and hazardous materials management professionals.

(h) The Agency shall state upon its record the basis for all actions under this Section.

SECTION 19. EFFECTIVE DATE OF REGULATIONS

The APA Regulations, APA boundaries and amendments thereto, shall become effective upon (1) the Commissioner’s determination that such regulations are reasonably related to the purpose of ground water protection and not inconsistent with the Regulations of Connecticut State Agencies §22a-354i-1 through §22a-354i-10 and (2) filing in the Office of the Town Clerk.

Adopted on January 8, 2008

With an Effective Date: February 17, 2008

**ENVIRONMENTAL PROTECTION COMMISSION
FLOOD AND EROSION REGULATIONS
ADOPTED 8-6-08**

Sec. 1 PREAMBLE

- 1.1 The Environmental Protection Commission has been charged with responsibility for: developing a storm water management plan to address flooding and erosion issues within the Town of Darien; identify potential remedies to mitigate the frequency and severity of flooding incidents; and coordinating the efforts of the Town, including appropriate town departments, boards and commissions of the Town of Darien. The Commission shall work closely with the Director of Public Works to assist the Department of Public Works to implement maintenance and improvements to the Town's infrastructure and facilities that affect flooding conditions within the Town.

Sec. 2 TITLE AND AUTHORITY

- 2.1 These regulations shall be known as the "Flood and Erosion Regulations of the Town of Darien."
- 2.2 The Flood and Erosion Control Board of the Town of Darien (the "Board") became part of the Environmental Protection Commission by ordinance adopted May 19, 1986, and the Environmental Protection Commission was given authority to implement the purposes and provisions of Chapter 477, Part II of the Connecticut General Statutes Section 25-84 et seq., Municipal Flood and Erosion Control Boards Act in the Town of Darien, now or hereafter amended.
- 2.3 Article II, Section 22-27 of the Darien Code effective May 19, 1986, gave the Environmental Protection Commission all the power and authority conferred upon municipal flood and erosion control boards under G.S. 25-84 et seq., including the power to promulgate regulations.
- 2.4 These regulations have been adopted and may be amended, from time to time, in accordance with the provisions of G.S. 25-84 et seq.
- 2.5 These regulations recognize that the Darien Planning and Zoning Commission will continue to be responsible for Flood Damage Prevention pursuant to Section 820 of the Darien Planning and Zoning Commission Regulations which implement Title 44, Chapter 1, Sections 59-75 of the Federal Register and the National Flood Insurance Program as amended.
- 2.6 Such board shall have authority, within the limits of appropriations from time to time made by the municipality, to plan, lay out, acquire, construct, reconstruct, repair, maintain, supervise and manage a flood or erosion control system. "Flood or erosion control system" means any dike, berm, dam, piping, groin, jetty, sea wall, embankment, revetment, tide-gate, water storage area, ditch, drain, or other structure or facility useful in preventing or ameliorating damage from floods or erosion, whether caused by fresh or salt water, or any dam forming a lake or pond that benefits abutting properties, and shall include any easements, rights-

of-way, and riparian rights which may be required in furtherance of any such system.

- 2.7 Such board is authorized to enter upon and to take and hold, by purchase, condemnation, or otherwise, any real property or interest therein which it determines is necessary for use in connection with the flood or erosion control system. Whenever the board is unable to agree with the owner of any such property as to the compensation to be paid for the taking thereof, the board, in the name of the municipality, may bring condemnation proceedings in accordance with the procedure provided by part I of chapter 835 of the Connecticut General Statutes for condemnation by municipal corporations generally. In such case, the court or judge may permit immediate possession of such property by the board in accordance with the procedure provided by said chapter. Any condemnation must be approved by the Representative Town Meeting.
- 2.8 All appropriations of municipal funds are subject to the regular appropriation procedure. At any time after voting to acquire, construct, reconstruct or maintain any flood or erosion control system or portion thereof the board in its discretion may elect to defray the cost thereof by issuing bonds or other evidences of debt, or from general taxation, special assessment, or any combination thereof subject to the approval of the representative town meeting. If it elects to defray any part of such cost from special assessment, it may apportion and assess such part upon the lands and buildings in the municipality which, in its judgment, are especially benefited thereby, whether they abut on such flood or erosion control system or not, and upon the owners of such lands and buildings, subject to the right of appeal as provided by state statute. Such assessment may include a proportionate share of any expenses incidental to the completion of such flood or erosion control system, such as fees and expenses of attorneys, engineers, surveyors, superintendents, or inspectors; the cost of any property purchased or acquired for such work; interest on securities; the cost of preparing maps, plans, and specifications; and the cost of printing, publishing, or serving advertisements or notices incidental thereto. The board may divide the total territory to be benefited by any flood or erosion control system into sections and may levy assessments against the property benefited in each section separately. In assessing benefits against the property in any section, the board may add to the cost of the part of the flood or erosion control system located in such section a proportionate share of the cost of any part of such system located outside the section which is useful for the operation or effectiveness of that part of such system within the section and of any of the other items of cost or expense above enumerated.
- 2.9 Whenever any assessment is made as herein provided, the amount to be raised thereby shall be apportioned among the properties benefited according to such rule as the board may adopt, based upon area, street frontage, assessed valuation of the land in the last-completed grand list of the municipality, the present or permitted use of any real property in the section, or any combination of these or other relevant factors. The board may make reasonable allowances when for any reason the particular condition or situation of any property requires such allowance. No benefits shall be assessed against any property in excess of the special benefit to accrue to such property. Assessments under this part shall

be made subject to the provisions of sections 7-139 to 7-145 inclusive of the Connecticut General Statutes.

- 2.10 If any assessment is not valid or enforceable for any reason, a new assessment may be made in the manner hereinbefore provided for the determination of the original assessment. If any assessment is made which is not sufficient to cover the entire cost of the work to be paid for by such assessment, a supplementary assessment may be made by the board against those properties previously assessed, to the end that a sum sufficient to pay the cost of such work may be obtained, provided the total of such supplementary assessment and the original assessment shall not exceed the value of the special benefit to accrue to the property against which the benefit is assessed.
- 2.11 Assessments shall be due and payable at such time as may be fixed by the board, provided no assessment shall become due until the work, or particular portion thereof for which such assessment was levied, has been completed. The board shall give notice of the date when such assessments are due and payable by publication at least twice within a period of fifteen days in a newspaper having a circulation in the municipality, listing the streets and describing the area within which are located the properties against which assessments are due. Such notice shall state the date when such assessments are due and payable, which date shall be more than thirty and less than sixty days after the date of the first such publication.
- 2.12 The board may provide for the payment of such assessments in such number of substantially equal annual installments, not exceeding twenty, as it determines, and may provide for interest charges on any deferred payments. Any person who has elected to pay his assessment in more than one installment may make payment at any time in full of the whole or such part of such assessment as still remains unpaid.
- 2.13 The proceeds of such assessments, whether or not pledged for the payment of securities, shall be segregated from other funds of the municipality and shall be used only to pay for the construction or reconstruction of the flood or erosion control system or particular portion thereof in respect to which such assessments are made or, as the case may be, for the payment of the interest on or principal of any securities issued to pay for such system or particular portion thereof.
- 2.14 Any assessment against benefited property not paid within thirty days of the due date shall thereupon be declared to be delinquent and shall be subject to interest from the due date at the same interest rate and in the same manner as provided by the general statutes in the case of delinquent taxes, provided, in the case of an assessment payable in installments, interest shall be computed on the entire unpaid balance of such assessment from the due date of the last installment which was paid, or from the due date of the assessment if no previous installment has been paid. Each addition of interest shall become, and be collectible as, a part of such assessment. Whenever any installment of an assessment becomes delinquent, any remaining unpaid installments of such assessment shall also become delinquent; provided, if all past due installments, together with interest and any other charges, have been paid in full, remaining installments may be paid without additional penalty, except for subsequent

default, in accordance with the original installment schedule.

Sec. 3 INVENTORY OF FLOODING CONDITIONS AND STORMWATER MANAGEMENT PLAN

- 3.1 The Commission shall periodically recommend to the Planning and Zoning Commission and state or federal agencies, pursuant to Section 822.c of the Darien Planning and Zoning Commission Regulations, an update to the existing inventory of flood-prone and flood-regulated erosion prone areas and suggest updates to the official map delineating said areas regulated by Planning and Zoning Commission. Copies of this map are available for inspection in the Planning and Zoning Office.
- 3.2 The Commission shall identify additional areas within the Town of Darien which may become inundated by water but are not regulated areas shown on the official Flood Insurance Rate Map (FIRM) and on the Flood Boundary and Floodway Map (MAP).
- 3.3 The Commission shall conduct an inventory of the Town's storm water collection system, including catch basins, manholes, pipes, culverts, ditches, bridges, streams, rivers, ponds, and other features of the existing system. This inventory would then be used to create a hydrologic and hydraulic model for watersheds and sub-drainage basins and to prepare a Watershed Master Plan.
- 3.4 The Commission shall develop a storm water management program, including (1) construction and post-construction site storm water runoff control, including detention control and prevention of storm water runoff from development sites or (2) control and abatement of pollution from existing land uses, and the detection and elimination of connections to the storm water system that threaten the public health, welfare, or the environment. The Commission shall: (1) provide public education and outreach relating to storm water management activities and establish procedures for public participation; (2) administer the program; (3) set boundaries for a storm water authority district; and (4) make recommendations as to whether the Town should levy on taxable real property in the storm water district to permit the commission to plan, lay out, acquire, construct, reconstruct, repair, maintain, supervise, and manage storm water control systems.

Sec. 4 REVIEW OF APPLICATIONS REFERRED BY PLANNING AND ZONING COMMISSION

- 4.1 All applications for permitting of regulated activities within regulated areas shown on the official Flood Insurance Rate Map (FIRM) and on the Flood Boundary and Floodway Map together with a copy of all application materials shall be referred for application review to the Environmental Protection Commission/Flood and Erosion Control Board pursuant to Sec. 828a of the Darien Planning and Zoning Commission Zoning Regulations. Any comments made by the Environmental Protection Commission relating to review for flooding and erosion issues shall be placed into the record of the Planning and Zoning Commission application.

Sec 5 ENFORCEMENT BY DEPARTMENT OF PUBLIC WORKS

- 5.1 Pursuant to Section 7-148 (B) of the Connecticut General Statutes, Director of Public Works has the authority to enter into or upon any land for the purpose of correcting the flow of surface water through watercourses which prevent, or may tend to prevent, the free discharge of municipal highway surface water through said courses.

Sec. 6 SEVERANCE.

- 6.1 If there is a conflict between the provisions of these regulations, the provision which imposes the most stringent standards of the use of wetlands and watercourses shall govern. The invalidity of any work, clause, sentence, section, part, subsection, or provision of these regulations shall not affect the validity of any part which can be given effect without such valid part or parts.

Sec. 7 OTHER APPROVALS

- 7.1 Nothing in these regulations shall obviate the requirements for the applicant to obtain any other assents, permits, or licenses required by law or regulation by the Town of Darien, State of Connecticut, and the Government of the United States, including any approval required by the Connecticut Department of Environmental Protection and the U.S. Army Corps of Engineers. Obtaining such assents, permit, or licenses is the sole responsibility of the applicant.

Sec. 8 EFFECTIVE DATE

- 8.1 These regulations shall become effective upon filing in the Office of the Town Clerk and publication of a notice of such action in a newspaper having general circulation in the Town of Darien.

Appendix 3: Impervious Cover in Connecticut Municipalities

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Connecticut's Changing Landscape developed by CLEAR

For towns and municipalities that would like more details about their local land cover by municipality, the Center for Land Use Education and Research (CLEAR) has developed a website that includes land cover maps for all 169 municipalities in Connecticut. Connecticut's Changing Landscape (<http://clear.uconn.edu/projects/landscape/index.htm>) provides

***Land cover** is what's on the surface of the earth (forest, wetland), as opposed to land use, which is what is planned, practiced or permitted (park, wildlife sanctuary).*

basic land cover information about changes to developed, forest and agricultural lands during the period 1985 to 2006. Five directly comparable land cover datasets (derived from satellite data), from 1985, 1990, 1995, 2002 and 2006, allow users to look at, and quantify, landscape change in their town.

Figure 1 shows land cover across the state in 2006 on the left and the change to developed land from 1985 to 2006 on the right. If all of the developed land in Connecticut was clumped together in a square, it would cover the area shown. The smaller square represents all area that was changed to developed between 1985

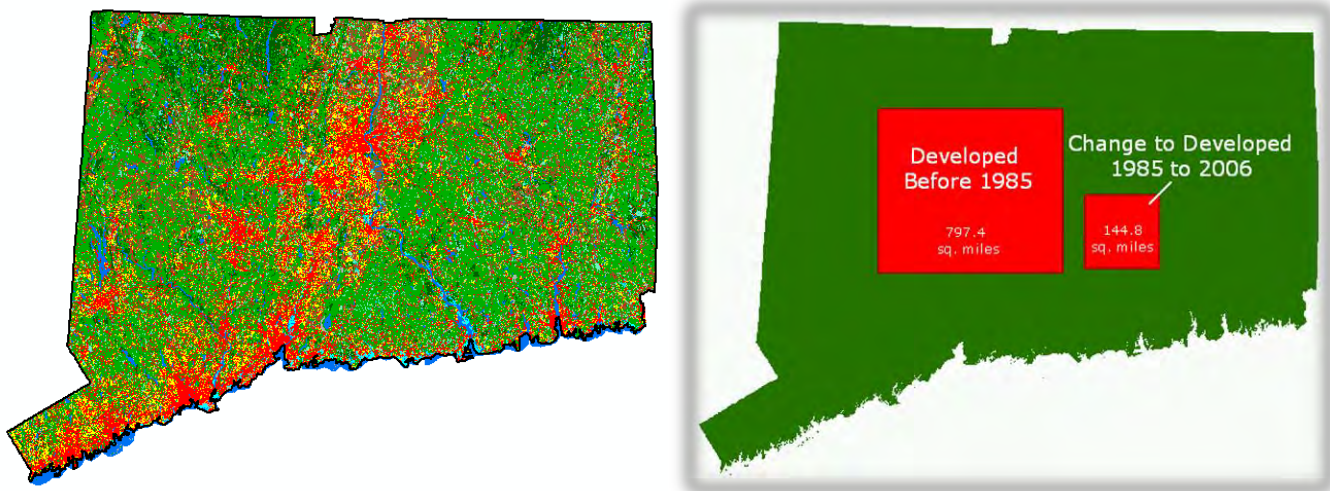


Figure 1: 2006 Statewide Land Cover in Connecticut (left) and the Change in Developed Land in Connecticut from pre-1985 to 2006.

and 2006. For this project, CLEAR defines developed land as high-density built-up areas typically associated with commercial, industrial and residential activities and transportation routes. These areas can be expected to contain a significant amount of impervious surfaces, roofs, roads, and other concrete and asphalt surfaces.

While the images are useful and instructive, it is still a picture, and the technology for assessing land cover and IC is always changing; more recent data become available periodically. The resultant land cover data, however, can be quantified to show overall land cover patterns.

To access land cover maps specific to your town or municipality:

- Go to: <http://clear.uconn.edu/projects/landscape/your/town.asp>
- Select your town by clicking on the map or with the pull-down menu. Then press Go.

This page contains static maps and area statistics (scroll down) for all five dates of land cover and for all 169 municipalities in Connecticut. The 1985 and 2006 land cover maps, as well as both change maps, have pdfs for viewing, saving and printing. Don't miss the Interactive Map where you can view all the maps and control the zoom and extent of your view.

Tools for Calculating Impervious Surface

Below are examples of tools that utilize modeling methods to generate impervious surface estimates.

Estimation Tool for Impervious Surfaces

The Estimation Tool for Impervious Surface (ETIS) allows calculating the amount of imperviousness for specified area based on land cover and population density data. It was developed using linear regression equation and a set of coefficients based on the classes of the land cover map used. There are several sets of coefficients included with the Toolbox for Connecticut Land Cover (CCL) 2002 and National Land Cover Data (NLCD) 2001, but ETIS also allows to import custom sets and to demonstrate the effect of change in land cover on the amount of imperviousness. ETIS can estimate percent impervious cover for future land cover scenarios allowing for comparison to current conditions.

ETIS was developed as an Arc Toolbox for ArcGIS 9.2 and ArcView 9.2 using Python Script.

It creates the Output shapefile that has all the Fields and Properties of the Analysis Unit shapefile plus extra "PI" field containing values of estimated imperviousness. <http://clear.uconn.edu/tools/is/etis/index.htm>

Impervious Surface Analysis Tool

The Impervious Surface Analysis Tool (ISAT) is a GIS extension that estimates impervious surface area using land cover and coefficients. Each land cover dataset requires a specific set of coefficients. Coefficients were developed for use with the Connecticut Land Cover (CCL) 2002 data.

The Impervious Surface Analysis Tool (ISAT), an ArcView 3.x extension, is used to calculate the percentage of impervious surface area of user-selected geographic areas (e.g. watersheds, municipalities, subdivisions). http://nemo.uconn.edu/tools/impervious_surfaces/measure/isat.htm

ISAT was developed as a partnership between NEMO and the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center, based on a prototype created by NEMO. ISAT can be downloaded free of charge from the Coastal Services Center website. <http://coast.noaa.gov/digitalcoast/tools/isat>

Calculating Directly Connected Impervious Area (DCIA)

It's become well documented that impervious areas discharge stormwater containing pollutants to surface waters. To reduce stormwater pollution, there is a need to eliminate the areas directly connected to the MS4 outfalls. Directly Connected Impervious Area (DCIA) means that part of the total impervious area that is hydraulically connected to the Permittee's MS4 which discharges straight to a surface water. DCIA typically includes streets, sidewalks, driveways, parking lots, and roof tops. DCIA would not likely include isolated impervious areas that are not hydraulically connected to the MS4 or otherwise drain to a pervious area.

Implementing BMPs in areas with a high percentage of DCIA should provide measurable gains in abating stormwater pollution. It is important to identify these areas of high DCIA to focus the appropriate stormwater BMPs. In order to determine the amount of DCIA, simple calculations can be performed based on the type of land use and percent impervious cover and knowledge of the stormwater collection system. The table* that follows presents these differences and their corresponding equations for determining DCIA. The table also provides two options for determining DCIA for an MS4 outfall.

If resources or information are limited, DCIA can be calculated from the equation in Option 1. This option provides a general assumption for the type of land use related to the MS4 outfall. DCIA from Option 1 only requires using the percent area of impervious cover (IC) calculated for the town. The percent of IC (%IC) is applied to the equation in the Option 1. As an example, a permittee with 12% IC, would then calculate the DCIA as:

Option 1 Equation: Includes the variable for %IC, where %IC = 12%;

$$0.1 \times (12\%)^{1.5} = 0.1 \times (42) = 4.2\% \text{ DCIA.}$$

Option 2 allows for more precision, calculating the DCIA across separate land uses where different land uses would mean different levels of DCIA. The percent IC is estimated based on the type of IC and produces a DCIA that applies to each MS4 outfall. The percent IC is estimated and applied to the corresponding equation in the table below for the type of IC. All DCIA equations are calculated similarly as described in the example above.

Option 1: Assume connection between IC and DCIA	Description of Contributing Area	Equation to Apply
Default - No estimated area types of IC required	Mostly storm sewered with curb and gutter, residential rooftops connected to MS4	$DCIA\% = 0.1(\%IC)^{1.5}$
Option 2: Area types of IC for connections between IA and DCIA	Description of Contributing Area	Equation to Apply
Fully	100% storm sewered with all IC	None
Highly	Mostly storm sewered with curb and gutter, residential rooftops connected to MS4	$DCIA\% = 0.4(\%IC)^{1.2}$
Average	Mostly storm sewered with curb and gutter, residential rooftops connected to MS4	$DCIA\% = 0.1(\%IC)^{1.5}$
Partially	50% storm sewered with some infiltration and residential rooftops not connected to MS4	$DCIA\% = 0.04(\%IC)^{1.7}$
Slightly	Small % of urban area storm sewered or mostly infiltration	$DCIA\% = 0.01(\%IC)^2$

*This table was adapted from EPA guidance on DCIA, for additional information see the EPA technical support document: *Estimating Change in Impervious Area (IA) and Directly Connected Impervious Areas (DCIA) for Massachusetts Small MS4 Permit* (<http://www.epa.gov/region1/npdes/stormwater/ma/MADCIA.pdf>).

Impervious Cover Maps for Connecticut Towns

Geospatial information has become a widely used method for all types of planning, assessment and management purposes. The potential for geospatial information is somewhat limitless with everything from sewer infrastructure to hiking trails and much of the collected information is already available to the public.

Publicly available geographical information system (GIS) data can be used to develop individual maps of impervious cover for each town in Connecticut. The National Land Cover Database provides a percent imperviousness estimate layer for the conterminous United States (<http://www.mrlc.gov/nlcd2011.php>).

This 30 meter resolution data is based primarily on the unsupervised classification of 2011 Landsat Enhanced Thematic Mapper satellite data. The data can be used depict different levels of impervious cover across each town which in many cases highlights roads, urban centers and forested areas.

CT DEEP developed maps in the municipal stormwater fact sheets which are available on the CT DEEP website. http://www.ct.gov/deep/cwp/view.asp?a=2719&Q=567354&deepNav_GID=1654

An objective of these maps is simply to inform the public and municipalities of available GIS information. Also, this information could support large scale planning as well as be a potential guide for best management practices. These maps provide a small example of GIS information available to the public. Just to name a few, here are some GIS resources: [ESRI ArcGIS](#), [UConn CLEAR](#), [CT ECO](#), and [CT DEEP](#).

Town of Darien Stormwater Management Plan Implementation Schedule

BMP	Responsible Party	Measureable Goal	Prior to Effective Date	Permit Year				
				1	2	3	4	5
1 Public Education and Outreach								
1.1 Implement Public Education Program	Director of Public Works	Procure or develop stormwater content about bacteria and pet waste management.						
		Procure or develop stormwater content related to lawn care, nitrogen and phosphorous.						
		Procure or develop stormwater content related to mercury, and improper waste disposal.						
		Procure or develop stormwater content concerning impervious coverage, metals, oils and grease.						
		Procure or develop stormwater content concerning illicit discharges.						
1.2 Address Education / Outreach for Pollutants of Concern	Director of Public Works	Prepare copies of brochures of fact sheets to be displayed in the Town Hall. Topic: Bacteria and pet waste management.						
		Prepare copies of brochures of fact sheets to be displayed in Town Hall. Topic: Lawn care, nitrogen and phosphorous						
		Prepare copies of brochures of fact sheets to be displayed in Town Hall. Topic: Mercury and improper waste disposal						
		Prepare copies of brochures of fact sheets to be displayed in Town Hall. Topic: Impervious coverage, metals, oils and grease.						
		Prepare copies of brochures of fact sheets to be displayed in Town Hall. Topic: Illicit discharges.						

Town of Darien Stormwater Management Plan Implementation Schedule								
BMP	Responsible Party	Measureable Goal	Prior to Effective Date	Permit Year				
				1	2	3	4	5
1.3 Stormwater Page on Town Website	Director of Public Works	Publish stormwater educational content to the Town's stormwater webpage.						

Town of Darien Stormwater Management Plan Implementation Schedule									
BMP	Responsible Party	Measureable Goal	Prior to Effective Date	Permit Year					
				1	2	3	4	5	
2 Public Involvement and Participation									
2.1 Comply with Public Notice Requirements	Director of Public Works	Publish public notice about the MS4 Plan and Annual Report by January 31. Accept public comments for 30 days following the public notice.							
2.2 Partner with Local Volunteer Organizations	Director of Public Works	Identify, publicize and/or provide support to one local volunteer effort.							
2.3 Household Hazardous Waste Collection	Director of Public Works	Provide at least one Household Hazardous Waste Collection Day							

Town of Darien Stormwater Management Plan Implementation Schedule								
BMP	Responsible Party	Measureable Goal	Prior to Effective Date	Permit Year				
				1	2	3	4	5
3 Illicit Discharge Detection and Elimination								
3.1 Prepare Written IDDE Program	Director of Public Works	Prepare written IDDE Program						
		Execute elements of written IDDE Program						
3.2 Town Stormwater Mapping	Director of Public Works	Develop list and mapping of 50% of outfalls and interconnections.						
		Complete remaining 50% of outfalls and interconnections.						
		Update database and map with new information as needed.						
3.3 Tracking of Citizen Illicit Discharge Reporting	Director of Public Works	Modify an existing process, such as Q-Alert to track citizen complaints of illicit discharges.						
		Continue documentation of citizen complaints of illicit discharges.						
3.4 Legal Authority to Prohibit Illicit Discharges	Director of Public Works	Prepare illicit discharge ordinance.						
		Implement and enforce illicit dicharge ordinance						
3.5 Develop Record Keeping System for IDDE Tracking	Director of Public Works	Develop and implement procedure for tracking citizen complaints of illicit discharges.						
		Continue documentation of citizen complaints of illicit discharges.						
3.6 Outfall Screening	Director of Public Works	Implementation Concurrent with 3.1 Above	Concurrent with 3.1 Above					

Town of Darien Stormwater Management Plan Implementation Schedule								
BMP	Responsible Party	Measureable Goal	Prior to Effective Date	Permit Year				
				1	2	3	4	5
4 Construction Site Stormwater Runoff Controls								
4.1 Implement, Upgrade and Enforce Land Use Regulations or Other Legal Authorities to Meet Requirements of MS4 General Permit	Director of Public Works	Review existing requirements for adequacy, and require developers, construction site operators, and/or contractors to maintain consistency with the 2002 Guidelines for Soil Erosion and Sedimentation Control, as amended; the CT Stormwater Quality Manual; and all stormwater discharge permits issued by CTDEEP within the Town.						
		Require developers, construction site operators, and/or contractors to maintain consistency with the 2002 <i>Guidelines for Soil Erosion and Sedimentation Control</i> , as amended; the CT Stormwater Quality Manual; and all stormwater discharge permits issued by DEEP within the Town.						
4.2 Interdepartmental Coordination Plan	Director of Public Works	Develop Interdepartmental Coordination Plan						
		Follow Interdepartmental Coordination Plan.						
4.3 Site Review and Inspection	Director of Public Works	Continue implementation of existing site review and inspection process.						
		Continue implementing updated site plan review process, site inspections, and enforcement						
4.4 Site Inspection for Compliance and Data Collection	Director of Public Works	Evaluate draft standard condition of approval. Inventory privately-owned retention and detention ponds, and other stormwater basins that discharge to/receive drainage from the Town's MS4						
		Implement standard condition of approval. Continue to inventory privately-owned retention and detention ponds, and other stormwater basins that discharge to/receive drainage from the Town's MS4						
		Enforce regulations regarding site inspections. Continue to inventory privately-owned retention and detention ponds, and other stormwater basins that discharge to/receive drainage from the Town's MS4						
4.5 Public Involvement	Director of Public Works	Review and modify procedure for collecting and reviewing citizen feedback regarding proposed and ongoing land disturbance and development activities.						
		Continue collecting and responding to citizen feedback.						
4.6 State Permit Notification	Director of Public Works	Continue the Town's procedure for notifying applicants of their potential obligation to register for the Construction General Permit.						
		Continue notification of applicants of their potential responsibility to register for the CTDEEP Construction General Permit.						

Town of Darien Stormwater Management Plan Implementation Schedule

BMP	Responsible Party	Measureable Goal	Prior to Effective Date	Permit Year				
				1	2	3	4	5
4.7 Require Operations and Maintenance Plans	Director of Public Works	Evaluate current regulations for consistency with MS4 permit.						
		Update and enforce regulations regarding the requirement of maintenance and operations plans, if required.						
		Enforce regulations regarding the requirement of maintenance and operations plans						
4.8 Intejurisdictional Agreements	Director of Public Works	Establish and enforce jurisdictional agreeenet(s) regarding control over contribution of pollutants between MS4s						
		Maintain and enforce interhjurisdictional agreement(s) regardingc ontrol over contribution of pollutants between MS4s						

Town of Darien Stormwater Management Plan Implementation Schedule								
BMP	Responsible Party	Measureable Goal	Prior to Effective Date	Permit Year				
				1	2	3	4	5
5 Post-Construction Site Stormwater Runoff Controls								
5.1 Review and Evaluate Regulatory Authority and Procedures	Director of Public Works	Review existing regulations and update as needed.						
5.2 Require LID Measures in Land Use Applications	Director of Public Works	Update existing LID regulations as needed to maintain consistency with the Permit.						
		Implement and enforce LID/runoff reduction regulations						
5.3 Maintenance and Inspection of Stormwater Structures	Director of Public Works	Prepare draft condition of approval for inspection access. Require operation and maintenance plans.						
		Implement standard approval condition condition and operation and maintenance plan policy.						
		Continue standard approval condition and operation and maintenance plan policy.						
5.4 Calculate DCIA in Each Outfall's Watershed Area	Director of Public Works	Calculate the DCIA that contributes to at least 33% of the outfalls within the Town's MS4.						
		Calculate the DCIA that contributes to at least 34% of the outfalls within the Town's MS4						
		Calculate the DCIA that contributes to at least 33% of the outfalls within the Town's MS4						
		Update DCIA calculations to reflect any new development, redevelopment, or retrofit projects.						
5.5 Correct Sediment and Erosion Control Isuses in Impaired Waters	Director of Public Works	Identify erosion and sediment problems in impaired waters. Develop and implement short- and long-term maintenance solutions to the problems as funding becomes available, or use legal authority to hold property owners accountable... Update annual report with identification of problem areas, the cost of the retrofit, and the anticipated pollutant reduction.						

Town of Darien Stormwater Management Plan Implementation Schedule								
BMP	Responsible Party	Measureable Goal	Prior to Effective Date	Permit Year				
				1	2	3	4	5
5.6 Reduction of Turfed Areas	Director of Public Works	Review need for requirements for turf reduction						
		Incorporate turf reduction into LID/runoff reduction regulations, if warranted						
		Implement and enforce turf reduction provisions of LID/runoff reduction regulations, if included.						
5.7 Consistency with Stormwater Manual	Director of Public Works	Review the Town's Stormwater management Regulations for consistency with new amendments to the 2004 Stormwater Quality Manual yearly, and update the Town's regulations where the Manual is more stringent than the Town's regulations.						
5.8 Coordination with Health District	Director of Public Works	Continue actively coordinating with Health District.						

Town of Darien Stormwater Management Plan Implementation Schedule								
BMP	Responsible Party	Measureable Goal	Prior to Effective Date	Permit Year				
				1	2	3	4	5
6 Pollution Prevention / Good Housekeeping								
6.1 Employee Training	Director of Public Works	Include MS4 information in annual Industrial Permit trianing program.						
6.2 Municipal Property Management	Director of Public Works	Ensure the petroleum and non-petroleum products at its facilities are properly handled via employee education and training. Develop and implement (i) Spill Prevention Plans at facilities as appropriate, (ii) management procedures for waste management equipment, and (iii) plans to sweep parking lots and keep facilities and their surrounding areas clean.						
6.3 Interconnected MS4s	Director of Public Works	To be coordinated with BMP 4.9	To be coordinated with BMP 4.9					
6.4 Sources Contributing Pollutants to the MS4	Director of Public Works	Review stormwater general permit registrant list and identify potential contributors facilities not on the list. Compare locations of potential contributors to screening and monitoring results to determine if further investigation is warranted.						
6.5 Evaluate Additional measures for Discharges to Impaired Waters	Director of Public Works	To be coordinated with BMPs 6.12 - 6.14	To be coordinated with BMPs 6.12 - 6.14					
6.6 DCIA Retrofit Program	Director of Public Works	Develop and implement Retrofit program. Track the disconnected DCIA acreage.						
		Complete development of written Retrofit Program by July 1, 2020. Continue implementing program. Track the disconnected DCIA acreage. Include details on project identification, prioritization, selection, and DCIA disconnection in the Annual Report.						
		Continue implementing Retrofit Program. Track the disconnected DCIA acreage. Attempt to meet DCIA reduction target of 1%.						
		Attempt to meet DCIA reduction target of 2%, inclusive of Year 4 and Year 5 projects. Track the disconnected DCIA acreage.						
6.7 Develop / Implement Plan to Identify / Prioritize Infrastructure Repair and Rehabilitation Program	Director of Public Works	Prepare draft policy						
		Implement policy						
		Continue policy implementation						

Town of Darien Stormwater Management Plan Implementation Schedule								
BMP	Responsible Party	Measureable Goal	Prior to Effective Date	Permit Year				
				1	2	3	4	5
6.8 Develop / Implement Plan to Identify / Prioritize Infrastructure Repair and Rehabilitation Program	Director of Public Works	Identify required repairs based on data from previous permit and prepare inventory. Make repairs as funding becomes available.						
		Update repair program as new data becomes available. Make repairs as funding becomes available.						
6.9 Street Sweeping	Director of Public Works	Develop and implement a procedure for identifying targeted areas for additional street sweeping. Establish a schedule for street sweeping to ensure minimum frequency is met for areas inside and outside areas with DCIA greater than 11% and/or in the Urbanized Area. Document results of sweeping program.						
		Continue with sweeping program, adjust as needed.						
6.10 Catch Basin Cleaning	Director of Public Works	Continue conducting routine cleaning of all catch basins. Track catch basin inspection observations. Develop and implement a plan for catch basin inspection and maintenance. Update the Town's Annual Report with documentation of the Town's catch basin cleaning and maintenance process.						
6.11 Snow Management Plan	Director of Public Works	Develop and implement a written snow and ice management plan, including protocols for staff training and record maintenance and updated standard operating practices. Provide appropriate secondary containment for any exterior containers of liquid dicing materials. Update the Annual Report with required information on the snow and ice						
		Implement a written snow and ice management plan, including protocols for staff training and record maintenance and updated standard operating practices. Provide appropriate secondary containment for any exterior containers of liquid dicing materials. Update the Annual Report with required information on the snow and ice						
6.12 Parks and Open Space	Diirector of Public Works	Update procedures for fertilizer application and disposal of grass clippings and leaves for lands that are the legal responsibility of the Town.						
		Implement procedures for fertilizer application and disposal of grass clippings and leaves for lands that are the legal responsibility of the Town.						
6.13 Pet Waste Management	Director of Public Works	Identify locations with the town where pet waste threatens receiving water quality.						
		Implement mitigation strategies. Update Annual Report to include pet waste management process scope and extent.						
		Continue to implement mitigation stragteies. Update Annual Report to include pet waste management process scope and extent.						

Town of Darien Stormwater Management Plan Implementation Schedule								
BMP	Responsible Party	Measureable Goal	Prior to Effective Date	Permit Year				
				1	2	3	4	5
6.14 Waterfowl Management	Director of Public Works	Identify waterfowl congregation areas						
		Identify targeted techniques to discourage the feeding and congregation of waterfowl						
		Implement targeted techniques to discourage the feeding and congregation of waterfowl						
6.15 Vehicles and Equipment	Director of Public Works	Review existing Industrial Permit Stormwater Pollution Prevention Plans for Town facilities, and update if the vehicle fueling/washing provisions have not been included						
		Implement procedures for the storage of Town-owned and -operated vehicles. Evaluate fueling areas owned by the Town and used by Town-owned or -operated vehicles. Establish and implement procedures to prevent vehicle wash waters from being discharged to MS4 waters or to surface waters.						
8.16 Leaf Management	Director of Public Works	Provide notice to residence about not raking laves into streets on Town website.						